DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, AND CERTAIN INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1982

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
UNITED STATES SENATE
NINETY-SEVENTH CONGRESS
FIRST SESSION

ON

H.R. 4034

AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, AND FOR SUNDRY INDEPENDENT AGENCIES, BOARDS, COMMISSIONS, CORPORATIONS, AND OFFICES FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1982, AND FOR OTHER PURPOSES

PART 2—(Pages 1063–2314)

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
NATIONAL SCIENCE FOUNDATION
NEIGHBORHOOD REINVESTMENT CORPORATION
NONDEPARTMENTAL WITNESSES

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Printed for the use of the Committee on Appropriations

U.S. GOVERNMENT PRINTING OFFICE
90-819 O WASHINGTON : 1982

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

S181-18

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DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT–INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1982

THURSDAY, APRIL 30, 1981

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 9:30 a.m. in room 1224, Everett McKinley Dirksen Senate Office Building, Hon. Jake Garn (chairman) presiding.

Present: Senators Garn and Schmitt.

NATIONAL SCIENCE FOUNDATION

STATEMENT OF JOHN B. SLAUGHTER, DIRECTOR

ACCOMPANIED BY:

- **DR. LEWIS M. BRANSCOMB, CHAIRMAN, NATIONAL SCIENCE BOARD, VICE PRESIDENT AND CHIEF SCIENTIST, INTERNATIONAL BUSINESS MACHINES, INC.**
- **DR. DONALD N. LANGENBERG, DEPUTY DIRECTOR**
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- **DR. ELOISE E. CLARK, ASSISTANT DIRECTOR FOR BIOLOGICAL, BEHAVIORAL, AND SOCIAL SCIENCES**
- **DR. FRANCIS S. JOHNSON, ASSISTANT DIRECTOR FOR ASTRONOMICAL, ATMOSPHERIC, EARTH, AND OCEAN SCIENCES**
- **DR. WILLIAM KLEMPERER, ASSISTANT DIRECTOR FOR MATHEMATICAL AND PHYSICAL SCIENCES**
- **DR. WALTER L. GILLESPIE, ACTING ASSISTANT DIRECTOR FOR SCIENCE AND ENGINEERING EDUCATION**
- **DR. JACK T. SANDERSON, ASSISTANT DIRECTOR FOR ENGINEERING**
- **THOMAS UBOIS, ASSISTANT DIRECTOR FOR ADMINISTRATION AND ACTING DIRECTOR, OFFICE OF GOVERNMENT AND PUBLIC PROGRAMS**
- **CHARLES H. HERZ, GENERAL COUNSEL**
- **DR. M. KENT WILSON, DIRECTOR, OFFICE OF PLANNING AND RESOURCES MANAGEMENT**

BUDGET REQUEST

Senator GARN. The subcommittee will come to order.

The National Science Foundation is the principal Federal agency for the support of basic research across all fields of science and science education at universities and colleges. NSF accounts for about 30 percent of all Federal support for basic research going to academic institutions. In some fields, NSF provides the dominant share of Federal basic research support: More than 69 percent in ground-based astronomy, 60 percent in environmental sciences, and over 50 percent in mathematics and engineering.

About 2,000 colleges, universities, industrial firms, and other institutions and organizations participate in NSF programs. Additionally, over 200 small business firms are involved in NSF-supported research, mostly in applied research areas.

The quality of research and science education projects is determined through a system of peer review. More than 30,000 scientists, engineers, and science educators in all parts of the United States participate in NSF peer review each year. They provide a yardstick for excellence, giving their views and evaluations of proposed projects. NSF staff members who are scientists, engineers, or science educators make award decisions.

This year NSF reorganized to establish engineering as a separate directorate and budget activity and applied science programs were moved to various major research activities. For fiscal year 1982, the NSF budget request is for $1,033,500,000 or $38,637,000 above the revised fiscal year 1981 request.

Gentlemen, we are happy to have you with us this morning, and Dr. Slaughter, if you would like to proceed.

Dr. SLAUGHTER. Thank you, Senator Garn.

INTRODUCTION OF ASSOCIATES

We are pleased to discuss with you the National Science Foundation budget for fiscal year 1982. Let me take a moment to introduce some of my colleagues. On my left is the Chairman of the National Science Board, the Vice President and Chief Scientist of the IBM Corp., Dr. Lewis M. Branscomb. On my right is the Deputy Director of the National Science Foundation, Dr. Donald N. Langenberg. Key members of the NSF staff are the Assistant Director for Mathematical and Physical Sciences, Dr. William Klemperer; the Assistant Director for Astronomical, Atmospheric, Earth, and Ocean Sciences, Dr. Francis S. Johnson; the Assistant Director for Biological, Behavioral, and Social Sciences, Dr. Eloise Clark; the Assistant Director for Engineering, Dr. Jack Sanderson; the Acting Assistant Director for Science and Engineering Educa- tion, Dr. Walter Gillespie; the Assistant Director for Scientific, Technological, and International Affairs, Dr. Harvey Averch; the Assistant Director for Administration, Mr. Thomas Ubois; General Counsel, Mr. Charles Herz; and the Director, Office of Planning and Resources Management, Dr. M. Kent Wilson.

GENERAL STATEMENT

I want to go quickly through a shortened version of my statement. I am submitting a longer statement for the record, but I also want to highlight parts of our budget and to point out the importance that we attach to strong support of research and education by the United States.

PRESIDENT'S ECONOMIC RECOVERY PROGRAM

In response to the President's economic recovery program, NSF made changes in the fiscal year 1982 budget that insured the development and maintenance of a strong scientific enterprise. At a level of $1,033,-500,000, the NSF budget is lean, but programmatically sound. It recognizes that the advances of science and technology are crucial to the strength of our country. Those advances frequently are translated into more and better jobs, improved products, stronger defense capability, and a healthier balance of trade.

We believe we can ill afford to take a back seat in the drive for scientific and technological excellence. That is why, in this most stringent of budget environments, you will find significant increases proposed for fundamental research in mathematics, computer science, chemistry, physics, materials, and engineering research. The Foundation also is moving forward with a major ocean margin drilling program, jointly funded by NSF and industry. And some growth is also proposed for research support in the astronomical, atmospheric, earth, and ocean sciences.

The Foundation's program for fiscal year 1982 is designed to accelerate research in key areas. It does not prorate increases or decreases. In our view, giving priority to research support is the best way to insure the vitality and progress of U.S. science and engineering at this crucial time.

During the 1970's, Federal support for fundamental research in the mathematical, physical, and computer sciences increased less than 1 percent in constant dollars. The budget for fiscal year 1982 is designed to provide more growth in these disciplines and to insure increased and uninterrupted progress in the mathematical and physical sciences, engineering, biology, neurosciences, astronomical, and geophysical sciences. Historically, these areas have proved to be of great importance in advancing U.S. science and technology. The fiscal year 1982 program is sound; we believe it merits your support.

I would like to comment briefly on some areas affected by reductions and on special features of NSF's research support.

SUPPORT OF THE NATURAL SCIENCES AND ENGINEERING

In considering the fiscal 1982 revised budget for NSF, we gave highest priority to support of the natural sciences and engineering because these disciplines are important to long-term economic growth. To achieve the required savings and, at the same time, to protect research in the sciences and engineering, it was necessary to reduce or eliminate programs of relatively lower priority. Consequently, the Foundation eliminated support for programs which are labeled science and engineering education.

NSF will continue, however, to provide support for the education of future scientists and engineers through research project grants. An amount of $78.3 million is included in the budget for research assistantships in science and engineering. This sum will provide support for about 9,000 research assistantships throughout the country.

The elimination of the education program was primarily a matter of relative priorities in a constrained budget. It should be noted, however, that if present undergraduate enrollment trends continue throughout the decade, there will be an ample supply of trained persons in all fields of science.

There is an immediate problem in a few disciplines, such as computer science, engineering, and the geophysical sciences, where shortages are causing a drain on the university faculty, and job incentives for baccalaureate degree holders are sufficiently high to discourage many students from seeking advanced degrees.

The Foundation's fiscal year 1982 program provides significant increases, about 20 percent, for support in computer science and engineering, and 11 percent in the geophysical sciences. Significant parts of these increases will provide additional research assistantships and larger investments in equipment and instrumentation needed for advanced research in these fields. This funding should provide encouragement for engineers and scientists to pursue advanced degrees and academic careers.

I have emphasized research assistantships, Mr. Chairman, because these young people are vital to future U.S. scientific strength. Any reduction in the Foundation's proposed research support activity will have a serious impact on these graduate students. It is urgent that we go forward with the strongest possible research support activity as proposed in the budget.

OCEAN MARGIN DRILLING PROGRAM

Next I would like to comment upon the ocean margin drilling program. We plan to employ the *Glomar Explorer*, a large ship already owned by the Federal Government, that could be converted into a drilling vessel. The *Glomar Explorer* will be superior to any drilling ship now in existence. Universities will develop research proposals to be considered and U.S. oil companies will participate by funding 50 percent of the cost.

The budget for fiscal year 1982 does not commit the Government to the conversion of the *Glomar Explorer* or to the drilling program itself. Those are fiscal year 1983 decisions. A systems integration contractor is now being selected to develop the detailed engineering plans and a number of universities are developing research plans and objectives. This information will be used to make the go or no-go decision late in fiscal year 1982. Let me emphasize, however, the funding requested for fiscal year 1982 is essential to the orderly development of the program.

I also wish to emphasize the fact that this is a research program. It is not a program to search for oil. While there will be some technological benefits, this is a scientific undertaking. U.S. oil companies have joined with the academic institutions to promote the scientific advancement.

In the long run, the program may give oil companies new insights into how to search for oil, just as knowledge of plate tectonics gained from the Foundation's deep sea drilling project helped them to improve their oil exploration procedures some years ago.

The ocean margin drilling program challenges us scientifically and technologically. It gives an added dimension to the research support program we are presenting for fiscal year 1982. As I have indicated, we are stressing research support in the fundamental science disciplines and in areas that underpin industry. In this case, a major effort can insure U.S. technological leadership in undersea drilling and can have significant implications for advancement of the geophysical sciences.

ANTARCTIC RESEARCH AND INTERNATIONAL ACTIVITIES

In addition, the Foundation will meet U.S. responsibilities for Antarctic research and international cooperative science activities will be continued at about the same level as in the revised program for fiscal year 1981.

EQUIPMENT AND INSTRUMENTATION

The proposed budget includes $90.2 million for equipment and instrumentation needed for the conduct of research project grants in the science disciplines and engineering. That is $11.7 million, or 14.9 percent greater than the fiscal year 1981 figure. Major equipment has been increased to $10 million, from $6.5 million with heaviest emphasis on computers and engineering research equipment.

REDUCTIONS IN FISCAL YEAR 1982 PROGRAM

Let me briefly note the areas most severely affected by reductions in NSF's fiscal year 1982 program.

Science and engineering education programs are eliminated, except for second- and third-year commitments for fellowships already awarded. The reductions in science education were made because there is an overriding need to reduce Government expenditures. The President set strict spending targets among the goals of his economic recovery program.

Support of behavioral and social science research is also reduced because it is judged to be of lower priority. The social science programs of the Foundation are important, but emphasis is being placed on the natural sciences and engineering in fiscal year 1982 because they provide the underpinning of economic progress and they are, therefore, tied closely to the President's economic recovery objectives.

To meet research instrumentation needs, the Foundation proposed a new $75 million program to upgrade research instrumentation in fiscal 1982. The program was cut in the March budget because of severe budget constraints and deferred for future consideration. I believe that this is the correct decision within the funding priorities, given the need to reach the President's expenditure goals for fiscal year 1982.

As I said earlier, the Foundation will spend about $90 million for instrumentation and major equipment as part of its research project support activities. Given the size of the overall NSF budget, we believe that $90 million is the appropriate amount for this purpose in this fiscal year.

ENGINEERING ACTIVITY

Another feature of our fiscal year 1982 program is the separate engineering activity established in fiscal year 1981 as part of an NSF reorganization. Applied science programs, formerly a part of the engineering and applied science directorate, have been assigned to the scientific disciplines and engineering research support. The purpose is to permit NSF program managers to support the best research in a given area whether it be called applied or basic research. In order to monitor NSF's performance in both types of research, we will continue to make the distinction between the two. I expect that NSF's research support activities will be strengthened by this change. Basic research results often point the way to needed applied research and, conversely, applied research efforts frequently reveal the need for more basic research on a specific topic.

RESEARCH CENTERS

The National Science Foundation provides support for five national astronomy research centers and one atmospheric research center. Each is being funded at an increased level in fiscal year 1982. The funding levels for each center are included in the more detailed section of the statement I am furnishing for the record. These major research facilities are important to advancing science and are given strong support in the proposed program for fiscal year 1982.

RESEARCH OPPORTUNITIES

The budget lists more than 160 major research questions, typical of those driving research in the various science disciplines and fields of engineering. They range from questions concerning fundamental processes taking place in the corrosion of metals to the nature of cosmic energy sources. Taken together, they represent a broad-scale effort to advance U.S. science and engineering.

These are important times for scientific discovery. The marvels of DNA research and its potential for benefiting mankind, including improved strains of plant crops and possible prevention of certain diseases, advances in robotics and artificial intelligence, new chemical processing techniques, new and improved materials, all suggest a more prosperous America if pursued diligently and developed with wisdom.

The National Science Foundation's program for fiscal year 1982 is designed to take advantage of these important research opportunities. It is imperative that the program be approved if we are to make good progress in science and engineering.

Mr. Chairman, the Carter administration had proposed a 25-percent increase for NSF, the largest dollar increase in the history of the agency. Clearly, such a sharp increase could not be sustained in these timesof fiscal restraint. Therefore, the revised fiscal year 1982 budget is $320 million below the January request.

NSF's fiscal year 1981 program has also been adjusted downward by the proposed rescissions. What has survived is a carefully structured research program in which all areas of science essential to future industrial strength are increased significantly.

PREPARED STATEMENT

I have a more detailed statement covering the specific program increases and decreases for fiscal year 1982. With your permission, I would like to have the statement included the record.

Senator GARN. We will be happy to include your entire statement in the record.

[The statement follows:]

STATEMENT OF DR. JOHN B. SLAUGHTER

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE, IT IS A PLEASURE FOR US TO BE HERE TODAY. WE GREATLY APPRECIATE THE FINE WORK OF THE SUBCOMMITTEE IN THE PAST IN PROVIDING NEEDED SUPPORT FOR SCIENCE AND ENGINEERING. WORKING TOGETHER, I AM CONFIDENT THAT WE CAN PROVIDE FOR EVEN GREATER SCIENTIFIC STRENGTH FOR AMERICA IN THE YEARS AHEAD.

IN RESPONSE TO THE ECONOMIC CRISIS, THE PRESIDENT HAS ASKED THE HEADS OF ALL DEPARTMENTS AND AGENCIES TO ACHIEVE SOME OF THE MOST DIFFICULT BUDGET OBJECTIVES IN THE NATION'S HISTORY.

THE NATIONAL SCIENCE FOUNDATION'S BUDGET FOR FY 1982 IS PART OF THE PRESIDENT'S ECONOMIC RECOVERY PLAN. AT ONE BILLION THIRTY-THREE AND ONE-HALF MILLION DOLLARS, IT IS LEAN AND PROGRAMMATICALLY SOUND. BUT IT RECOGNIZES THAT ADVANCES IN SCIENCE AND TECHNOLOGY ARE CRUCIAL TO AMERICA'S FUTURE STRENGTH. THESE ADVANCES FREQUENTLY TRANSLATE INTO MORE AND BETTER JOBS, IMPROVED PRODUCTS, A STRONGER DEFENSE CAPABILITY, AND A MORE HEALTHY BALANCE OF TRADE.

WE CAN ILL AFFORD TO TAKE A BACK SEAT IN THE DRIVE FOR SCIENTIFIC AND TECHNOLOGICAL EXCELLENCE. THAT IS WHY, IN THIS MOST STRINGENT OF BUDGET ENVIRONMENTS, YOU WILL FIND SIGNIFICANT INCREASES PROPOSED FOR FUNDAMENTAL RESEARCH IN MATHEMATICS, COMPUTER SCIENCE, CHEMISTRY, PHYSICS, MATERIALS AND ENGINEERING. AND THE FOUNDATION IS MOVING FORWARD WITH A MAJOR OCEAN MARGIN DRILLING PROGRAM THAT WILL BE JOINTLY FUNDED WITH INDUSTRY.

SOME GROWTH IS ALSO PROPOSED FOR RESEARCH SUPPORT IN THE ASTRONOMICAL, ATMOSPHERIC, EARTH, AND OCEAN SCIENCES.

THE FOUNDATION'S PROGRAM FOR FY 1982 IS DESIGNED TO ACCELERATE RESEARCH IN KEY AREAS. IT DOES NOT PRORATE INCREASES AND DECREASES. IN OUR VIEW, GIVING PRIORITY TO RESEARCH SUPPORT IS THE BEST COURSE TO INSURE THE VITALITY AND PROGRESS OF U.S. SCIENCE AND ENGINEERING AT THIS CRUCIAL TIME.

DURING THE ENTIRE DECADE OF THE 1970'S ON A FEDERAL-WIDE BASIS, SUPPORT FOR FUNDAMENTAL RESEARCH IN THE PHYSICAL, MATHEMATICAL, AND COMPUTER SCIENCES INCREASED LESS THAN 1% IN CONSTANT DOLLARS. THE BUDGET FOR FY 1982 IS DESIGNED TO PROVIDE REAL GROWTH IN THESE AREAS AND TO INSURE INCREASED AND UNINTERRUPTED PROGRESS IN THE MATHEMATICAL AND PHYSICAL SCIENCES, ENGINEERING, BIOLOGY, NEURO-

SCIENCES, ASTRONOMICAL AND GEOPHYSICAL SCIENCES. HISTORICALLY, THESE AREAS HAVE PROVED TO BE OF GREAT IMPORTANCE IN ADVANCING U.S. SCIENCE AND TECHNOLOGY. THE FY 1982 PROGRAM IS SOUND AND MERITS YOUR SUPPORT.

I WOULD LIKE TO COMMENT BRIEFLY ON SOME OF THE AREAS AFFECTED BY REDUCTIONS AND ON SPECIAL FEATURES OF OUR RESEARCH SUPPORT ACTIVITIES.

IN CONSIDERING THE FY 1982 REVISED BUDGET FOR NSF, WE GAVE THE HIGHEST PRIORITY TO SUPPORT OF THE NATURAL SCIENCES AND ENGINEERING BECAUSE OF THE IMPORTANCE OF THESE DISCIPLINES TO LONG TERM ECONOMIC GROWTH. THEREFORE, TO ACHIEVE THE REQUIRED SAVINGS AND AT THE SAME TIME PROTECT RESEARCH IN THE SCIENCES AND ENGINEERING, IT WAS NECESSARY TO REDUCE OR ELIMINATE PROGRAMS OF RELATIVELY LOWER PRIORITY. CONSEQUENTLY, THE FOUNDATION HAS ELIMINATED SUPPORT FOR PROGRAMS LABELED SCIENCE AND ENGINEERING EDUCATION. HOWEVER, NSF WILL CONTINUE TO PROVIDE SUPPORT FOR THE EDUCATION OF FUTURE SCIENTISTS AND ENGINEERS THROUGH RESEARCH PROJECT GRANTS. AN AMOUNT OF $78.3 MILLION IS INCLUDED IN THE BUDGET FOR RESEARCH ASSISTANTSHIPS IN SCIENCE AND ENGINEERING. THIS WILL PROVIDE SUPPORT FOR ABOUT 9,000 RESEARCH ASSISTANTSHIPS.

THE ELIMINATION OF THE EDUCATION PROGRAM WAS PRIMARILY A MATTER OF RELATIVE PRIORITIES. HOWEVER, IT SHOULD BE NOTED THAT IF PRESENT UNDERGRADUATE ENROLLMENT TRENDS PERSIST THROUGHOUT THE DECADE, THERE WILL BE AMPLE NUMBERS OF TRAINED PEOPLE IN ALL BROAD FIELDS OF SCIENCE. THERE IS AN IMMEDIATE PROBLEM IN A FEW DISCIPLINES SUCH AS COMPUTER SCIENCE, ENGINEERING, AND GEOPHYSICAL SCIENCES WHERE SHORTAGES ARE CAUSING A DRAIN ON UNIVERSITY FACULTY AND THE JOB INCENTIVES FOR BACCALAUREATE DEGREE HOLDERS ARE SUFFICIENTLY HIGH TO DISCOURAGE MANY STUDENTS FROM SEEKING ADVANCED DEGREES. THE FOUNDATION'S FY 1982 PROGRAM PROVIDES SIGNIFICANT INCREASES, ABOUT 20%, FOR SUPPORT IN COMPUTER SCIENCE AND ENGINEERING, AND 11% IN THE GEOPHYSICAL SCIENCES. A SIGNIFICANT PART OF THIS INCREASE WILL PROVIDE FOR ADDITIONAL RESEARCH ASSISTANTSHIPS AND LARGER INVESTMENTS IN EQUIPMENT AND INSTRUMENTATION NEEDED FOR ADVANCED RESEARCH IN THESE FIELDS. THIS ACTION SHOULD PROVIDE ENCOURAGEMENT FOR ENGINEERS AND SCIENTISTS TO PURSUE ADVANCED DEGREES AND ACADEMIC CAREERS.

I HAVE EMPHASIZED RESEARCH ASSISTANTSHIPS, MR. CHAIRMAN, BECAUSE THESE YOUNG PEOPLE ARE VITAL TO FUTURE U.S. SCIENTIFIC STRENGTH. ANY REDUCTION IN THE FOUNDATION'S PROPOSED RESEARCH SUPPORT ACTIVITY WILL HAVE A SERIOUS IMPACT ON THESE GRADUATE STUDENTS. IT IS URGENT THAT WE GO FORWARD WITH THE STRONGEST POSSIBLE RESEARCH SUPPORT ACTIVITY AS PROPOSED IN THE BUDGET.

NEXT, I WOULD LIKE TO COMMENT ON THE OCEAN MARGIN DRILLING PROGRAM. WE PLAN TO EMPLOY THE GLOMAR EXPLORER, A LARGE SHIP ALREADY OWNED BY THE FEDERAL GOVERNMENT THAT CAN BE CONVERTED INTO A DRILLING VESSEL. THE GLOMAR EXPLORER WOULD BE SUPERIOR TO ANY DRILLING SHIP NOW IN EXISTENCE. UNIVERSITIES WILL DEVELOP THE RESEARCH PROPOSALS TO BE CONSIDERED, AND U.S. OIL COMPANIES WILL PARTICIPATE AND FUND 50% OF THE COSTS.

THE BUDGET FOR FY 1982 DOES NOT COMMIT THE GOVERNMENT TO THE CONVERSION OF THE GLOMAR EXPLORER OR THE DRILLING PROGRAM ITSELF. THAT IS A FY 1983 DECISION. A SYSTEMS INTEGRATION CONTRACTOR IS NOW BEING SELECTED TO DEVELOP THE DETAILED ENGINEERING PLANS AND A NUMBER OF UNIVERSITIES ARE DEVELOPING RESEARCH PLANS AND OBJECTIVES FOR THE PROGRAM. THIS INFORMATION WILL BE USED TO MAKE THE GO OR NO-GO DECISION IN LATE FY 1982. THE FUNDING REQUESTED IN FY 1982 IS ESSENTIAL FOR THE ORDERLY DEVELOPMENT OF THE PROGRAM.

I WANT TO EMPHASIZE THAT THIS IS A RESEARCH PROGRAM. IT IS NOT A SEARCH FOR OIL. YET, WHILE THERE WILL BE SOME TECHNOLOGICAL BENEFITS, THIS IS A SCIENTIFIC UNDERTAKING. U.S. OIL COMPANIES HAVE JOINED WITH ACADEMIC INSTITUTIONS TO PROMOTE SCIENTIFIC ADVANCEMENT. THE PROGRAM IN THE LONG RUN MAY GIVE OIL COMPANIES NEW INSIGHTS INTO HOW TO SEARCH FOR OIL, JUST AS KNOWLEDGE ON PLATE TECTONICS GAINED FROM THE FOUNDATION'S DEEP SEA DRILLING PROJECT HELPED THEM TO IMPROVE THEIR OIL EXPLORATION PROCEDURES.

THE OCEAN MARGIN DRILLING PROGRAM CHALLENGES US SCIENTIFICALLY AND TECHNOLOGICALLY. IT GIVES AN ADDED DIMENSION TO THE RESEARCH SUPPORT PROGRAM WE ARE PRESENTING FOR FY 1982. AS I HAVE INDICATED, WE ARE STRESSING RESEARCH SUPPORT IN THE MOST FUNDAMENTAL SCIENCE DISCIPLINES, AND IN AREAS THAT UNDERPIN INDUSTRY. IN THIS CASE, A MAJOR EFFORT CAN INSURE U.S. TECHNOLOGICAL LEADERSHIP IN UNDERSEA DRILLING AND HAVE SIGNIFICANT IMPLICATIONS FOR THE ADVANCEMENT OF THE GEOPHYSICAL SCIENCES.

IN ADDITION, THE FOUNDATION WILL MEET U.S. RESPONSIBILITIES IN THE ANTARCTIC, AND OUR INTERNATIONAL COOPERATIVE SCIENCE ACTIVITIES WILL CONTINUE AT ABOUT THE SAME LEVEL AS IN THE REVISED FY 1981 PROGRAM.

THE PROPOSED BUDGET INCLUDES $90.2 MILLION FOR EQUIPMENT AND INSTRUMENTATION NEEDED FOR THE CONDUCT OF RESEARCH PROJECT GRANTS IN THE SCIENCE DISCIPLINES AND ENGINEERING. THAT IS $11.7 MILLION OR 14.9 PERCENT GREATER THAN THE FY 1981 LEVEL. MAJOR EQUIPMENT IS INCREASED TO $10.0 MILLION FROM $6.5 MILLION WITH HEAVIEST EMPHASIS ON COMPUTERS AND ENGINEERING RESEARCH EQUIPMENT.

LET ME BRIEFLY NOTE THE AREAS THAT ARE MOST SEVERELY AFFECTED BY REDUCTIONS IN OUR FY 1982 PROGRAM.

SCIENCE AND ENGINEERING EDUCATION PROGRAMS ARE ELIMINATED EXCEPT FOR SECOND AND THIRD YEAR COMMITMENTS FOR FELLOWSHIPS ALREADY AWARDED. THE REDUCTIONS IN EDUCATION ACTIVITY WERE MADE DUE TO THE OVERRIDING NEED TO REDUCE GOVERNMENT EXPENDITURES. THE PRESIDENT HAS SET VERY STRICT SPENDING TARGETS WHICH MUST BE MET IF THE GOALS OF HIS ECONOMIC RECOVERY PROGRAM ARE TO BE ACHIEVED.

BEHAVIORAL AND SOCIAL SCIENCES ARE ALSO REDUCED DUE TO RELATIVE PRIORITY CONSIDERATIONS. THE SOCIAL SCIENCE PROGRAMS OF THE FOUNDATION ARE IMPORTANT. HOWEVER, EMPHASIS IS BEING PLACED ON THE NATURAL SCIENCES AND ENGINEERING IN FY 1982 BECAUSE HISTORICALLY, THEY HAVE PROVIDED UNDERPINNING FOR ECONOMIC PROGRESS AND THEY ARE, THEREFORE, CLOSELY TIED TO THE PRESIDENT'S ECONOMIC RECOVERY OBJECTIVES.

TO MEET RESEARCH INSTRUMENTATION NEEDS, THE FOUNDATION PROPOSED A NEW $75 MILLION PROGRAM TO UPGRADE RESEARCH INSTRUMENTATION IN FY 1982. THE PROGRAM WAS CUT IN THE MARCH BUDGET DUE TO SEVERE BUDGET CONSTRAINTS. THE PROGRAM HAS BEEN DEFERRED FOR FUTURE CONSIDERATION. I BELIEVE THIS IS THE CORRECT DECISION GIVEN THE NEED TO REACH THE PRESIDENT'S EXPENDITURE GOALS FOR FY 1982. AS I STATED EARLIER, THE FOUNDATION WILL SPEND ABOUT $100 MILLION FOR INSTRUMENTATION AND MAJOR EQUIPMENT AS PART OF ITS RESEARCH PROJECT SUPPORT ACTIVITIES. GIVEN THE SIZE OF THE OVERALL NSF BUDGET, WE BELIEVE THAT THIS IS THE MAXIMUM AMOUNT THAT SHOULD BE USED FOR THIS PURPOSE.

ANOTHER FEATURE OF OUR FY 1982 PROGRAM IS THE SEPARATE ENGINEERING ACTIVITY ESTABLISHED IN FY 1981 AS PART OF AN NSF REORGANIZATION. APPLIED SCIENCE PROGRAMS, WHICH WERE FORMERLY A PART OF THE ENGINEERING AND APPLIED SCIENCE ACTIVITY, HAVE BEEN MOVED INTO THE SCIENCE DISCIPLINES AND ENGINEERING RESEARCH SUPPORT FIELDS. THE PURPOSE IS TO PERMIT OUR PROGRAM MANAGERS TO SUPPORT THE BEST RESEARCH IN A GIVEN AREA, WHETHER IT BE CALLED APPLIED OR BASIC RESEARCH. IN ORDER TO MONITOR OUR PERFORMANCE OF BOTH TYPES OF RESEARCH, WE WILL CONTINUE TO MAKE THE DISTINCTION. I EXPECT THAT OUR RESEARCH SUPPORT ACTIVITIES WILL BE STRENGTHENED BY THIS CHANGE. IT IS RECOGNIZED THAT BASIC RESEARCH RESULTS OFTEN POINT THE WAY TO NEEDED APPLIED RESEARCH, AND, CONVERSELY, APPLIED RESEARCH EFFORTS FREQUENTLY REVEAL THE NEED FOR MORE BASIC RESEARCH ON A SPECIFIC TOPIC.

THE NATIONAL SCIENCE FOUNDATION PROVIDES SUPPORT FOR FIVE NATIONAL ASTRONOMY RESEARCH CENTERS AND ONE ATMOSPHERIC RESEARCH CENTER. EACH OF THESE CENTERS IS BEING FUNDED AT AN INCREASED LEVEL IN FY 1982. THE INDIVIDUAL CENTERS AND FUNDING LEVELS ARE INCLUDED IN THE MORE DETAILED SECTION OF THIS STATEMENT THAT I AM FURNISHING FOR THE RECORD. THESE MAJOR RESEARCH FACILITIES ARE IMPORTANT IN ADVANCING SCIENCE AND ARE GIVEN STRONG SUPPORT IN THE PROPOSED PROGRAM FOR FY 1982.

THE BUDGET LISTS MORE THAN 160 MAJOR RESEARCH QUESTIONS THAT ARE TYPICAL OF THOSE DRIVING RESEARCH IN THE VARIOUS SCIENCE DISCIPLINES AND FIELDS OF ENGINEERING. THEY RANGE FROM QUESTIONS CONCERNING FUNDAMENTAL PROCESSES TAKING PLACE IN THE CORROSION OF METALS TO THE NATURE OF COSMIC ENERGY SOURCES. AND, TAKEN TOGETHER, THEY REPRESENT A BROAD SCALE EFFORT TO ADVANCE U.S. SCIENCE AND ENGINEERING.

THESE ARE IMPORTANT TIMES FOR SCIENTIFIC DISCOVERY. THE MARVELS OF DNA RESEARCH AND ITS POTENTIAL FOR BENEFITING MANKIND, INCLUDING IMPROVED STRAINS OF PLANT CROPS AND POSSIBLE TREATMENT OF CERTAIN DISEASES, ADVANCES IN ROBOTICS AND ARTIFICIAL INTELLIGENCE, NEW CHEMICAL PROCESSING TECHNIQUES, NEW AND IMPROVED MATERIALS, ALL SUGGEST A MORE PROSPEROUS AMERICA IF PURSUED DILIGENTLY AND DEVELOPED WITH WISDOM. THE NATIONAL SCIENCE FOUNDATION'S PROGRAM FOR FY 1982 IS DESIGNED TO TAKE ADVANTAGE OF THESE IMPORTANT RESEARCH OPPORTUNITIES. IT IS IMPERATIVE THAT THE RESEARCH PROGRAM AS PROPOSED BE APPROVED IF WE ARE TO MAKE GOOD PROGRESS IN SCIENCE AND ENGINEERING.

MR. CHAIRMAN, THE CARTER BUDGET FOR FY 1982 HAD PROPOSED A 25% INCREASE FOR NSF, THE LARGEST DOLLAR INCREASE IN THE HISTORY OF THE AGENCY. CLEARLY, SUCH A SHARP INCREASE CANNOT BE SUSTAINED IN THESE TIMES OF FISCAL RESTRAINT. THEREFORE, THE REVISED FY 1982 BUDGET IS $320 MILLION BELOW THE JANUARY REQUEST. OUR FY 1981 PROGRAM HAS ALSO BEEN ADJUSTED DOWNWARD BY PROPOSED RESCISSIONS. WHAT HAS SURVIVED IS A CAREFULLY STRUCTURED RESEARCH SUPPORT PROGRAM IN WHICH ALL AREAS OF SCIENCE ESSENTIAL TO FUTURE INDUSTRIAL STRENGTH ARE UP SIGNIFICANTLY.

MR. CHAIRMAN, I HAVE A MORE DETAILED STATEMENT THAT COVERS THE SPECIFIC PROGRAM INCREASES AND DECREASES INCLUDED IN THE BUDGET. WITH YOUR PERMISSION, I WOULD LIKE TO HAVE THAT STATEMENT INCLUDED IN THE RECORD. I URGE THE COMMITTEE TO APPROPRIATE THE FUNDS NECESSARY TO IMPLEMENT THIS PROGRAM IN THE AREAS AND AMOUNTS REQUESTED IN THE BUDGET.

THIS CONCLUDES MY FORMAL STATEMENT.

DETAILED STATEMENT ON NSF FY 1982 BUDGET REQUEST

NSF'S REVISED BUDGET FOR FY 1982 IS PART OF THE PRESIDENT'S ECONOMIC RECOVERY PLAN. IT TOTALS $1,033.5 MILLION. THAT AMOUNT IS $320 MILLION BELOW THE $1,353.5 MILLION BUDGET SENT TO THE CONGRESS IN JANUARY.

PROPOSED RESCISSIONS WOULD REDUCE THE FOUNDATION'S OPERATING PLAN FOR FY 1981 BY $83 MILLION, FROM $1,096 MILLION TO A REVISED TOTAL OF $1,013.0 MILLION, AS PART OF THE FEDERAL EFFORT TO CONTROL EXPENDITURES.

HOWEVER, THERE IS AN INCREASE IN NEW OBLIGATIONAL AUTHORITY OF 4% OR $38.6 MILLION. THE FY 1981 OBLIGATIONS INCLUDE $16 MILLION IN FY 1980 DEFERRALS AND A FRACTION OVER $2 MILLION IN OTHER CARRYOVERS; THESE DEFERRALS AND CARRYOVERS NARROW THE DIFFERENCE TO $20.5 MILLION IN THE OBLIGATION LEVELS BETWEEN FY 1981 AND FY 1982.

SOME OF THE MAJOR HIGHLIGHTS OF THE NSF PROGRAM ARE:

FIRST, IN THE MATHEMATICAL AND PHYSICAL SCIENCES -

- $205.7 MILLION IS REQUESTED FOR INDIVIDUAL RESEARCH PROJECT GRANTS. THIS IS $29.5 MILLION MORE THAN THE FY 1981 LEVEL. THE INCREASE WILL MAKE MORE EFFECTIVE USE OF RESOURCES BY INCREASING AWARD SIZE. SUPPORT FOR RESEARCH ASSISTANTSHIPS IS INCREASED FROM $27.4 MILLION TO $30.8 MILLION OR BY MORE THAN 11.2%.

- $41.4 MILLION IS INCLUDED FOR INSTRUMENTATION NEEDED IN CONNECTION WITH THE CONDUCT OF RESEARCH IN ALL FIELDS IN THE MATHEMATICAL AND PHYSICAL SCIENCES, UP $12.8 MILLION OR 45 PERCENT MORE THAN THE FY 1981 LEVEL.

- $23.5 MILLION IS BUDGETED FOR THE SUPPORT OF 13 MATERIALS RESEARCH LABORATORIES, UP $2.9 MILLION OVER THE FY 1981 LEVEL, TO ASSIST IN MODERNIZING CENTRAL RESEARCH FACILITIES AND TO DEVELOP FURTHER INTERDISCIPLINARY RESEARCH ACTIVITIES.

- $9.1 MILLION IS INCLUDED FOR COORDINATED EXPERIMENTAL RESEARCH IN COMPUTER SCIENCE, AN INCREASE OF $3.8 MILLION OVER THE FY 1981 LEVEL, TO IMPROVE THE COMPUTER RESEARCH CAPABILITY OF THE NATION'S ACADEMIC INSTITUTIONS.

NEXT, IN ENGINEERING -

- $28.4 MILLION FOR ELECTRICAL, COMPUTER, AND SYSTEMS ENGINEERING, UP $5.8 MILLION OVER FY 1981, TO GIVE INCREASED EMPHASIS TO RESEARCH ON COGNITIVE MACHINE DESIGN, MACHINE REASONING SYSTEMS, AND SOLID STATE AND MICROSTRUCTURE ENGINEERING.

- $21.7 MILLION FOR CHEMICAL AND PROCESS ENGINEERING, A $4.2 MILLION INCREASE OVER FY 1981. HERE WE ARE STRESSING CATALYSIS; POLYMER PROCESSING; FOOD ENGINEERING; THERMODYNAMIC AND TRANSPORT PROPERTIES RELEVANT TO COAL; AND THE DEVELOPMENT OF FACILITIES IN PLASMA CHEMISTRY, FLUIDIZATION AND MEMBRANES.

- $19.9 MILLION FOR EARTHQUAKE HAZARDS RESEARCH, AN INCREASE OF $1.8 MILLION OVER FY 1981, MAINLY TO FIND WAYS TO REDUCE EARTHQUAKE HAZARDS IN EXISTING BUILDINGS AND TO ANALYZE THE POSSIBLE EFFECTS OF EARTHQUAKE PREDICTIONS.

- $6.0 MILLION FOR WATER RESOURCES AND ENVIRONMENTAL ENGINEERING, MORE THAN $1.3 MILLION ABOVE FY 1981, FOR EXPANDED RESEARCH IN THIS AREA.

- INCLUDED IN THE ABOVE IS $17.9 MILLION FOR RESEARCH ASSISTANTSHIPS, $3.2 MILLION MORE THAN THE FY 1981 LEVEL, A 21.9 PERCENT INCREASE. THE ACTUAL NUMBERS OF ENGINEERING RESEARCH ASSISTANTSHIPS SUPPORTED WILL INCREASE FROM 1,616 IN FY 1981 TO 1,775 IN FY 1982.

EMPHASES IN THE BIOLOGICAL AND NEURAL SCIENCES INCLUDE:

- $31.9 MILLION FOR CELLULAR AND PHYSIOLOGICAL BIOSCIENCES, $2.1 MILLION MORE THAN THE REVISED FY 1981 LEVEL. EMPHASIS IS GIVEN TO THE SUPPORT OF RESEARCH ON THE FUNCTION AND REGULATION OF GENES AND ON THE USE OF GENE TRANSFER TECHNIQUES FOR THE POTENTIAL IMPROVEMENT OF PLANTS OF ECONOMIC IMPORTANCE.

- $46.2 MILLION FOR MOLECULAR AND GENETIC BIOSCIENCES, AN INCREASE OF $2.4 MILLION FOR EXPANDED RESEARCH ON ENZYME CATALYSIS, THE STRUCTURE AND FUNCTION OF MEMBRANES, PROTEINS, AND NUCLEIC ACIDS.

- $43.9 MILLION FOR ENVIRONMENTAL BIOLOGY, AN INCREASE OF $2.8 MILLION OVER FY 1981. THE INCREASE WILL PERMIT EXPANDED STUDIES ON STRESSED ECOSYSTEMS SUCH AS THOSE SUBJECT TO HEAVY FALLS OF ACID RAIN.

IN THE ASTRONOMICAL, ATMOSPHERIC, EARTH AND OCEAN SCIENCES

- $63.8 MILLION FOR ASTRONOMICAL SCIENCES, UP $7.3 MILLION OVER FY 1981, CONTINUES OPERATION OF THE VERY LARGE ARRAY FOR RADIO ASTRONOMY, OTHER NATIONAL OBSERVATORY OPERATIONS AND ADVANCED INSTRUMENTATION FOR RESEARCH PROJECTS. THIS INCLUDES SUPPORT FOR SIX NATIONAL RESEARCH CENTERS AS FOLLOWS:

  -- THE NATIONAL CENTER FOR ATMOSPHERIC RESEARCH AT BOULDER, COLORADO IS INCREASED FROM $29.2 MILLION TO $31.3 MILLION;

  -- THE NATIONAL ASTRONOMY AND IONOSPHERIC CENTER IN PUERTO RICO IS INCREASED TO $6.1 MILLION FROM $5.4 MILLION;

  -- THE NATIONAL RADIO ASTRONOMY OBSERVATORY IN GREENBANK, WEST VIRGINIA, AND WHICH ALSO OPERATES THE VERY LARGE ARRAY OUTSIDE SOCCORO, NEW MEXICO, IS INCREASED TO $15.8 MILLION FROM $14.3 MILLION;

  -- THE KITT PEAK NATIONAL OBSERVATORY LOCATED OUTSIDE TUCSON, ARIZONA, MOVES UP FROM $11.1 MILLION TO $12.7 MILLION;

  -- THE CERRO TOLOLO INTER-AMERICAN OBSERVATORY IN CHILE IS INCREASED FROM $5.6 MILLION TO $6.5 MILLION, AND

  -- THE SACRAMENTO PEAK OBSERVATORY LOCATED IN SUNSPOT, NEW MEXICO IS INCREASED FROM $1.9 MILLION TO $2.1 MILLION.

- $73.2 MILLION FOR ATMOSPHERIC SCIENCES, UP $6.7 MILLION, FOR CONTINUED BASIC RESEARCH ON CLIMATE CHANGE AND ON THE PROCESSES OF LOCAL WEATHER; AND LEASE PURCHASE OF SECOND REPLACEMENT AIRCRAFT AT THE NATIONAL CENTER FOR ATMOSPHERIC RESEARCH.

o $30.1 MILLION FOR BASIC RESEARCH IN THE EARTH SCIENCES, UP $3.2 MILLION, PARTICULARLY ON THE NORTH AMERICAN CONTINENT, THAT MAY HAVE APPLICATIONS BOTH WITH RESPECT TO MINERAL AND PETROLEUM RESOURCES AND NATURAL HAZARDS SUCH AS EARTHQUAKES.

o $79.7 MILLION FOR OCEAN SCIENCES, UP $7.3 MILLION, FOR RESEARCH ON THE OCEANS RELATED TO WEATHER, CLIMATE, LIVING AND MINERAL RESOURCES. IT ALSO PROVIDES FOR MAJOR REWORK OF ONE OR TWO SHIPS IN THE ACADEMIC FLEET.

o $4.7 MILLION IS PROVIDED FOR SPECIAL R&D STUDIES ON ENVIRONMENT, ENERGY AND RESOURCES. A $0.30 MILLION INCREASE IS INCLUDED TO EXTEND RESEARCH ON INTERNATIONAL ECONOMIC POLICY AND TECHNOLOGY ASSESSMENT.

o $10.6 MILLION, AN INCREASE OF $0.55 MILLION OVER FY 1981, IS INCLUDED FOR INTERNATIONAL COOPERATIVE RESEARCH, EXCHANGES, TRAVEL AND SEMINARS WITH FOREIGN SCIENTISTS. THE BUDGET PROVIDES FOR INCREASED COOPERATION WITH WESTERN EUROPE AND JAPAN AND MAINTAINS A MINIMAL FRAMEWORK FOR COOPERATION WITH THE U.S.S.R.

THERE IS NO CHANGE IN THE U.S. ANTARCTIC PROGRAM FROM THE AMOUNT REQUESTED IN JANUARY:

o $62.6 MILLION IS PROVIDED FOR OPERATIONS SUPPORT REQUIREMENTS, UP $6.7 MILLION OVER THE FY 1981 LEVEL, TO FUND CRITICAL EQUIPMENT, MAINTENANCE, AND PROCUREMENT NEEDS DEFERRED FROM FY 1980 AND FY 1981 AND TO COVER PRICE INCREASES FOR FUEL IN THESE YEARS. THE RESEARCH COMPONENT OF THE PROGRAM IS DOWN $1.3 MILLION FROM THE FY 1981 LEVEL TO A TOTAL OF $7.5 MILLION.

THE BUDGET FOR PROGRAM DEVELOPMENT AND MANAGEMENT, THE FOUNDATION'S SALARY AND EXPENSES ACTIVITY, INCLUDES:

o $63.2 MILLION FOR THESE PURPOSES, UP $2.5 MILLION OVER THE REVISED FY 1981 AMOUNT. A SUBSTANTIAL PORTION OF THE INCREASE, $1.6 MILLION IS PROVIDED FOR RENT, BRINGING THE TOTAL FOR RENTS TO $5.5 MILLION. INFLATIONARY INCREASES IN COMMUNICATION AND SUPPLY COSTS ACCOUNT FOR THE REMAINDER OF THE INCREASE. THE INCREASE WOULD BE MUCH HIGHER WERE IT NOT FOR THE ANTICIPATED SAVINGS IN SALARIES THAT WILL OCCUR IF CONGRESS APPROVES THE PROGRAM AS PRESENTED. THE YEAR-END EMPLOYMENT CEILING FOR FY 1982 IS 1,158, down 60 from the FY 1981 year-end employment ceiling of 1,218.

Special Items

The Alan T. Waterman Award is made annually. The awardee receives a $150,000 three-year research grant. This item was previously funded in the Cross-Directorate Activity, but in FY 1982 it will be funded from the appropriate scientific discipline or field of engineering.

No funds are requested for International Organizations in the STIA activity. Future U.S. support for the International Council of Scientific Unions (ICSU), will be funded through benefiting functions. The Foundation plans to phase out support for the International Institute for Applied Systems Analysis (IIASA). Negotiations on these activities are continuing with the State Department and the White House. The Foundation will, of course, meet legal obligations involved in the phase out of these activities.

Overall, the NSF budget provides for an 8.4 percent increase in basic research support, from $871.5 million in FY 1981 to $950.1 million in FY 1982. This percentage increase is approximately the same as the 8.7 percent anticipated inflation rate for FY 1982. It is imperative that overall basic research support not be allowed to drop below the 8.4 percent growth rate proposed for FY 1982.

The proposed budget helps achieve the President's economic goals, and it provides the level of funding needed to drive U.S. research efforts ahead in the most critical areas of science and engineering.

Reductions and Rationale

To achieve the increases in research noted above within a $1,033.5 million budget, it has been necessary to reduce or phase out programs that are narrowly focused, of lower priority, or that were new in FY 1981 and FY 1982.

o The Science and Engineering Education activity is phased out, except for $9.9 million in funds needed to meet second and third year commitments on fellowships already awarded. This is a $102 million reduction.

The reductions result from decisions to:

-- DEFER NEW PROGRAMS PROPOSED IN THE CARTER BUDGET;
-- ELIMINATE FY 1982 SUPPORT FOR SEPARATE PROGRAMS IN SCIENCE EDUCATION;

NSF SUPPORT FOR SCIENCE EDUCATION HAS BEEN SPREAD AMONG A LARGE NUMBER OF SMALL PROGRAMS WHICH HAVE LITTLE POTENTIAL TO IMPACT SIGNIFICANTLY THE PROBLEMS THEY HAVE ADDRESSED. AT LEAST 23 SEPARATE PROGRAMS ARE NOW FUNDED IN THIS ACTIVITY. ALSO, AT ABOUT $80 MILLION, THE PROGRAM REPRESENTS A VERY SMALL FRACTION OF THE $140 BILLION SPENT ANNUALLY FOR EDUCATION IN THE UNITED STATES. HENCE THEIR ELIMINATION WOULD HAVE A RELATIVELY SMALL ADVERSE IMPACT IN FEDERAL SUPPORT FOR SCIENCE.

DESPITE THE EVENTUAL ELIMINATION OF THE FELLOWSHIP AND TRAINEESHIP ELEMENT OF THE SCIENCE EDUCATION PROGRAM, THE FOUNDATION WILL CONTINUE TO SUPPORT ABOUT 9,000 GRADUATE RESEARCH ASSISTANTS AND POSTDOCTORAL FELLOWS THROUGH ITS REGULAR RESEARCH PROJECT SUPPORT GRANTS.

o BEHAVIORAL, SOCIAL AND ECONOMIC SCIENCES ARE REDUCED BY $44 MILLION TO A REVISED TOTAL OF $21.1 MILLION. NSF CONTINUES TO RECOGNIZE THESE AREAS OF SCIENCE AS IMPORTANT SOURCES OF KNOWLEDGE. WHILE THE SUPPORT LEVEL IS SHARPLY REDUCED, $21.1 MILLION REMAINS FOR RESEARCH PROJECTS IN ANTHROPOLOGY AND COGNITIVE, BEHAVIORAL, SOCIAL AND ECONOMIC SCIENCES. THIS FUNDING IS SUFFICIENT TO MAINTAIN SUPPORT FOR THE MOST URGENT REQUIREMENTS, SUCH AS SOCIAL SCIENCE DATA BASES AND STUDIES ON UNEMPLOYMENT AND INFLATION. OTHER AREAS OF SOCIAL SCIENCE ARE NOT OF EQUAL PRIORITY WITH SUPPORT FOR THE NATURAL SCIENCES AND ENGINEERING BECAUSE THE SOCIAL SCIENCES ARE NOT AS CLOSELY COUPLED TO THE PRESIDENT'S PLANS TO STIMULATE INDUSTRIAL DEVELOPMENT AND ECONOMIC RECOVERY.

o ALL CROSS-DIRECTORATE PROGRAMS ARE ELIMINATED, FOR A REDUCTION OF $97.9 MILLION. THE LARGEST PART OF THIS REDUCTION IS $75 MILLION FOR THE UNIVERSITY RESEARCH LABORATORIES AND INSTRUMENTATION PROGRAM, WHICH I HAVE ALREADY MENTIONED. ALSO TERMINATED ARE PROGRAMS FOR GEOGRAPHIC DISTRIBUTION OF RESEARCH SUPPORT, SMALL RESEARCH INSTRUMENTATION FOR 2-/4-YEAR COLLEGES, AND SOME PROGRAMS FOR WOMEN AND MINORITIES. A NUMBER OF CROSS-DIRECTORATE PROGRAMS WERE NEW STARTS IN FY 1981 AND FY 1982 OR WERE TOO NARROWLY FOCUSED. FOR EXAMPLE, 1) TWO-TO-FOUR YEAR COLLEGE RESEARCH INSTRUMENTATION GRANTS

FOR WHICH SEPARATELY IDENTIFIED FUNDING SHOULD NOT BE PROVIDED BECAUSE HIGH QUALITY RESEARCH IN ANY ACADEMIC INSTITUTION IS ELIGIBLE FOR FUNDING THROUGH NSF RESEARCH PROGRAMS. 2) AN EXPERIMENTAL PROGRAM TO STIMULATE "COMPETITIVE" RESEARCH WHICH IS INAPPROPRIATE FOR CONTINUED FUNDING BECAUSE IT CHANNELS FUNDS AWAY FROM SUPPORT OF THE BEST POSSIBLE RESEARCH PRIMARILY FOR THE PURPOSE OF ENSURING GREATER GEOGRAPHIC EQUITY IN THE DISTRIBUTION OF RESEARCH FUNDS.

o SEVERAL PROGRAMS SUPPORTED UNDER SCIENTIFIC, TECHNOLOGICAL, AND INTERNATIONAL AFFAIRS ARE REDUCED BY A TOTAL OF $42.3 MILLION. THIS INCLUDES TERMINATION OF SUPPORT FOR THE INTERGOVERMENTAL SCIENCE PROGRAMS AND UNIVERSITY-BASED INNOVATION CENTERS AND SIGNIFICANT REDUCTIONS IN THE RATE OF INCREASE FOR INDUSTRY/UNIVERSITY COOPERATIVE RESEARCH AND SMALL BUSINESS INNOVATION. THE INTERGOVERNMENTAL PROGRAMS WERE STARTED WITH THE IDEA THAT LOCAL GOVERNMENTS WOULD GRADUALLY ASSUME FULL FUNDING FOR THESE EFFORTS. WE EXPECT THAT STATE AND LOCAL GOVERNMENTS WILL CONTINUE THOSE PROGRAMS WHICH HAVE PROVED MOST WORTHWHILE TO THEM. ALTHOUGH SEPARATELY IDENTIFIED INDUSTRY AND INTERNATIONAL SCIENCE PROGRAMS ARE BEING REDUCED, HIGHLY MERITORIOUS ACTIVITIES WILL CONTINUE TO BE SUPPORTED WITH THE FUNDS REMAINING.

THIS CONCLUDES THE DETAILED STATEMENT.

Dr. SLAUGHTER. I urge the committee to appropriate the funds necessary to implement this program in the areas and amounts requested.

Senator Garn, this concludes my formal statement. I and my staff will be happy to answer any questions the committee may have on our budget request.

HEALTH OF U.S. SCIENCE

Senator GARN. Thank you, Dr. Slaughter.

First of all, could you please share with the subcommittee your view of the health of U.S. science in general and what you think can be done to assure the continued preeminence of the United States in the sciences.

Dr. SLAUGHTER. We believe that science faces a number of critical issues. In my opening remarks, I talked about manpower and I talked about instrumentation. By and large, though, let me say that I believe U.S. science is continuing to work on exciting new developments. Among them are activities in the physical and life sciences, work in unified field theory and metal enzymes, and continued work in DNA research. Some work underway in neural development and repair is clearly among the best anywhere in the world.

A number of challenges face us for the future. We need to make sure that we continue to support the best science programs proposed by the scientists and researchers of this country. We need to make sure that the economic climate affords us the opportunity to provide that kind of support. I believe this is an important time for us to continue the support of outstanding scientific developments.

Senator **Garn**. I am sure you are very well aware that in 1980, 8 out of the 10 Nobel laureates were from the United States. Yet we continue to read stories in the press about how we are dropping behind in basic and scientific research and engineering and that foreign countries are going to exceed us. Of course, being in the public life for 13 years, I do not believe all I read in the press. Nevertheless, this seems to be a rather constant theme.

Certainly I don't want to lose the edge that we currently have. That is why I asked the general question.

Dr. Branscomb, do you have any comments?

Dr. **Branscomb**. Yes, Senator, I would like to respond to that question.

We take a great deal of pride in those Nobel laureates. What they prove is that the quality and productivity of our top established scientists is still the best in the world. Of course, those Nobel prizes reflect work that has been accomplished over a period of 10 or 20 years, so they reflect the Nation's past and present status in regard to scientific preeminence. These prizes do not reflect our future scientific status, and I believe that there are some concerns worth keeping in mind regarding problems that we may encounter over the next 10 years.

Speaking from my industrial experience, one of these problems is that the Nation's industry is in danger of outrunning knowledge base.

Senator **Garn**. Congress did that a long time ago.

Dr. **Branscomb**. Perhaps we see the problem in a more dramatic light when foreign countries begin to make inroads.

Our R. & D. investment as a nation, public and private, has declined from 2 percent to 1.2 percent of the GNP since 1964. During that time the Federal investments in science have been essentially flat in real dollars, and industrial research and development has risen 25 percent in real dollars. Both of those rates are very slow compared to what has been happening in Germany and Japan. All of us are delighted to see the private sector funding R. & D. In my opinion, the Government has no business funding private, commercial R. & D., but the productivity of those industries depends on their knowledge base, and that gap is widening.

The National Science Board was visited recently by the Minister of Sciences in France, Dr. Pierre Aigrain, who pointed out that in 1981 the French will have an 18-percent increase in their governmental investment in science. That is 18 percent real growth on top of inflation, and the Japanese are making similar efforts. U.S. science is very healthy, but in relative terms. We have seen major changes. There was a time when everybody beat a path to the United States door to use our facilities and our equipment. American scientists now look abroad with envy much more often than they formerly did. That envy is not all bad.

I believe an ideal situation would be to reach an equilibrium in which countries coordinate with one another and share major scientific facilities. This would be a reasonable way for everyone to conserve research dollars. I am not proposing that such shared facilities necessarily be jointly operated, but that one country maintain one type of facility and another country maintain a facility of a different type. But, the United States should make sure that its scientific efforts level off at least in a state of equilibrium.

I would also observe that we face a national security challenge in this country, and I believe the entire country now supports the President on this challenge. It is important to appreciate that basic science must be the underpinning of our domestic economy and, simultaneously, of our defense technology. We have a double demand.

In the 1960's many people believed in the notion of spinoff, that if you put all of your R. & D. into defense the benefits of knowledge that would result from that R. & D. would automatically serve to meet the economic needs of the Nation. We are more sophisticated now than we were then, and we realize that this spinoff concept is clearly not the case. In fact, if you look at our defense R. & D., it calls for very different types of activities compared to those that, for example, the Japanese are carrying out. They do not fund a major defense activity, certainly not a defense R. & D. activity. So, I would like to see Japan be more attentive to their defense responsibilities. If we look at the adequacy of our research base, we have to remember that it serves two national goals: An economic goal which is being challenged by our economic competitors, and a defense goal which causes another group of people to be submitted to the gauntlet.

I worry about the quality of American science. We have achieved in the last 20 years a very broad base of participation in science in this country, and that is very valuable. It means that local companies and local communities can gain access to skills. But the truly great discoveries, the great achievements, come from pinnacles of brilliance, and that is what the fellowships are for, as distinguished from research assistantships. Fellowships are awarded to an individual student who is particularly deserving and has financial need. That student selects a school which he wants to attend, in contrast to an assistantship in which a professor chooses students to receive assistance. We have a real problem in science education, and I would say the problem is that we have not reached a national consensus on what role the Federal Government should play in relation to precollege level science education.

It is clearly a problem. State and local governments have the responsibility, but they need help. We have not ascertained yet precisely what form that help should take, but we are going to have to resolve this problem.

I worry about the adequacy of our science for rational decisionmaking in the eighties. I believe the country once again has taken a very sound turnaway from irrational regulation of technology in the absence of facts. We need to concentrate on getting at the facts before we regulate on environmental and health grounds, getting at the facts when we have to decide what kind of technologies to employ.

In the eighties we have to face up to a crisis in engineering research and education. That crisis has been well documented and it is more than a short-term problem. The manpower shortages in critical fields is a short-term problem, but there is a real issue regarding whether or not engineering schools are capable of training people to the level required by modern industry.

We see in the United States an economy increasingly oriented to service. Three-quarters of the population in this country are engaged in service activities, two-thirds in information industry activities.

The sciences that support these activities are both hard and soft, and we do not even have good words to describe them—the whole information science and technology area—but I will tell you that we need to put science into the soft sciences. My company has some 80 Ph. D. psychologists, for example, who are trying to help us build computer equipment that people can use in a comfortable, productive, and effective way. If we do not learn how to do that, the growth of our industry will be stultified.

Modern science calls for very sophisticated instruments. We at the National Science Foundation need to rethink the way people procure and gain access to research equipment, because we need to do something about the fact that the average research tools at our universities are twice as old as those in our industries. Those are just a few examples of what I believe the challenges are in the 1980's.

INTERNATIONAL FUNDING OF MAJOR SCIENTIFIC PROJECTS

Senator GARN. Do you feel in the future we are going to be looking at a lot of international funding of major scientific projects?

Dr. BRANSCOMB. I suspect we will, as we have in the past, but my personal guess is that, rather than seeing a major facility funded by five or six nations, we are more likely to see facilities funded by one country, or perhaps by two or three countries. This facility sharing will most likely occur among nations that have common intentions and which are willing to make their basic science facilities—which do not have any national security implications—available to researchers in other countries, as has always been the American tradition. By internationally coordinating our plans for such facilities, we can reduce everybody's budgetary burden and provide the whole scientific community with a better set of facilities on which to build.

Senator GARN. If we do more in this direction, what implication does that have for the structure of NSF?

Dr. SLAUGHTER. Senator, the decade of the 1980's will be characterized as a decade of alliances, both internationally and within this country. We need to look for opportunities where people can work together, particularly in major research activities. The structure of the Foundation will certainly be affected by this kind of thinking. Consequently, we need to look at ways in which NSF can catalyze the efforts of other Federal agencies working with State and local governments and with private industry to assure support from a broad set of resources for science and technology. Such effort will be the key feature of support for science in the 1980's. It will be an important effort for NSF to make.

Senator GARN. Thank you very much, gentlemen. I am going to excuse myself and let my distinguished colleague Senator Schmitt take over. I have a conflict with my Banking Committee responsibilities. In addition, I thought it might be more appropriate to have a true scientist here to question you. He is so far ahead of me in scientific areas and I have to admit that, of all my colleagues in the Senate, he is the only one that I am jealous of. As an old Air Force pilot with many, many hours of flying time, I have never been in space and I have never been on the Moon, and it bothers me. Every time I look at Jack, I am jealous. I am going to turn you over to him. Thank you very much for your testimony today.

Dr. SLAUGHTER. Thank you, Senator.

SUPPLY AND DEMAND OF TRAINED PEOPLE IN ALL FIELDS OF SCIENCE

Senator SCHMITT. Well, I see the next question, gentlemen, is one that we have discussed before, and I am happy to bring it up again. We will try to go through a series of questions. However, I have to return to the Intelligence Committee in about half an hour so we will try to get through the more important issues.

In your opening statement you note that the elimination of NSF's education program in fiscal year 1982 was primarily a matter of relative priorities. You state that if present undergraduate enrollment trends persist throughout the decade there will be ample numbers of trained people in all fields of science. Can you provide for the record your current estimate of the supply and demand by discipline for the decade of the eighties since your statements do not jibe completely with information developed by other committees of Congress and the joint study conducted by the Labor Department and NSF?

Dr. SLAUGHTER. We will be happy to provide that, Senator Schmitt.

[The information follows:]

BALANCE BETWEEN SUPPLY AND DEMAND IN MAJOR FIELDS OF SCIENCE AND ENGINEERING

At the current time, the United States has a shortage at all degree levels of computer scientists and some types of engineers. Several different indicators provide the basis for this assessment. A 1979 NSF survey of major industrial employers found that all reported difficulty in finding qualified computer scientists and engineers. In response to such recruitment problems, the Department of Labor has recently designated electrical, industrial, and mechanical engineers as being in hard-to-fill occupations. Shortages of engineers are not limited to the industrial sector. Both universities and Federal agencies have reported widespread vacancies for engineers. A 1981 NSF-sponsored survey indicated that about 1 in 10 engineering faculty slots was vacant. In regard to computer science departments, another recent NSF survey disclosed that universities were able to fill only about two-thirds of faculty vacancies that developed during 1979–80.

Evidence of these shortages may also be seen in the adjustments made by labor markets to correct the imbalances. One adjustment has been in starting salaries. New baccalaureate computer scientists and chemical, electrical, and mechanical engineers received salaries in 1980 that were 70 percent higher than 6 years earlier. In comparison, starting salaries for business and humanities baccalaureates rose only about 55 percent over the same period. A more dramatic example is that inexperienced petroleum engineers averaged about $24,000 in starting salaries in 1980 as compared to $14,000 for new biologists and $17,500 for chemistry graduates. These financial incentives have attracted rising numbers of young people to earn college degrees in these fields, which should help to alleviate future potential shortages. Between 1975 and

1979, bachelor's degrees in computer science climbed by 74 percent and engineering first degrees by 34 percent. This occurred while total bachelor's degrees in all fields remained level. Another compensating adjustment, particularly in computer science, has been the movement into the shortage fields by those with degrees in other disciplines. NSF studies show that the number of people entering the computer science labor force far exceeds those who have earned degrees in the field.

Our estimates of the 1990 market balances for scientists and engineers at the baccalaureate and master's degree levels have not changed since publication last year of "Science and Engineering Education for the 1980's and Beyond." We expect that there will probably be adequate suplies in most fields with three, or possibly four, exceptions. Computer scientists are expected to be in short supply throughout the next decade. Our analysis of projections of employment by the Department of Labor and of degrees by the Department of Education also indicates a likely 1990 shortage of statisticians, industrial engineers, and assuming a major expansion in defense spending, aeronautical engineers.

At the doctoral level we also anticipate that the 1990 supply of those trained as computer scientists will be less than demand. Last year's report stated that the outlook for doctoral engineers was uncertain. We anticipate now that the unexpectedly high demand for engineering baccalaureates will continue to discourage many graduates from continuing their studies to completion of doctorates. This should result in a continued shortage of engineers with doctoral degrees.

Senator SCHMITT. Is there something new in your evaluations since the joint study by the Labor Department and NSF was published that would lead you to the conclusion that I have stated?

Dr. SLAUGHTER. We need to examine precisely what the differences are. I will say, though, we believe that clearly there are critical shortages in some areas at the moment, particularly in computer science, some fields of engineering, and some areas of the geophysical sciences. But we will present to you a much more critical look.

Senator SCHMITT. I hope you will, because all the testimony in the committees that I have been associated with, Intelligence to Defense to Space Science, science in general, and industry itself indicate an extremely significant shortfall of trained people, particularly advanced degree people. In addition, it appears this shortfall is growing, not diminishing, largely because the industry and Government are hiring baccalaureate holders and keeping them out of the advance degree stream, while at the same time they are hiring young assistant and associate professors that even if they were at universities, there is a question whether they would have students available for training.

Dr. SLAUGHTER. Senator, our data are complete and consistent with what you said. That is why I find it a little difficult to understand where differences exist between what NSF has consistently identified as a problem and what others are stating.

There are critical problems in the areas you mentioned; problems in the universities are well understood. Vacancies exist in faculty necessary to train the future supply of engineers and experts in computer science. Those vacancies do not appear to be decreasing; the number is getting larger. Some vacancies have existed for protracted periods of time. We are concerned and have identified some actions necessary to rectify this problem.

NEED FOR TRAINED SCIENTIFIC PERSONNEL

Senator SCHMITT. I think it will be wise for us to remember that in your basic grant program you support a great number of graduate students, but this number is still not as large as we would like to see.

Dr. **Branscomb.** Much of the methodology upon which graduate student numbers are based, Bureau of Labor Statistics kind of methodologies, assumes no radical change in the demand structure for skill and assumes that the educational system will continue to have the nominal capacities that it now has. Both assumptions could be wrong if the university faculties and industry shift their requirements in the ratio of baccalaureates to advanced degree holders in efforts to try to stay abreast of increasing technical challenges from competitors.

I do not think we can forecast numbers out of either of those two models, but they are causes for judgment always.

Senator **Schmitt.** Let me just suggest four areas where if current national policy is followed, we know that the demand is going to increase: If we achieve an economic recovery with new investments by an industry, particularly heavy in advance industry across the board; if we repair our national defenses and, as proposed, if we move to utilize the capabilities that we are demonstrating now with the Space Shuttle; and if we take—I say "we," I mean the private sector as well—take initiatives to broaden our capability for independence of foreign sources of energy. One example is the corporate decisions underway right now, right or wrong, to move forward in the development of oil shale. That is a tremendous burden on the people resources as well as other resources, and there is no integrated national capability right now to understand what the total impact of all of those things and others acting together, synergistically, is going to do. Whether we know the exact number or not, we know what the problem is. It is, unfortunately, my feeling that neither Government nor industry is going to really understand this problem or, if they understand, they are doing nothing to counteract it.

During another hearing, a calculation was given to me which indicated that it would take $10 billion minimum over the next 10 years in order to train, just train, the number of advanced degree holders that this Nation is going to require on an annual basis. Where is that $10 billion going to come from?

Whatever we do with your budget, it won't be enough to train all the scientists this country needs. However, I think NSF can act as a leader and a catalyst to encourage other Government agencies and the private sector to expand their roles in science education.

Dr. **Slaughter.** I believe NSF is beginning to play a much stronger catalytic role than it has ever played before. The Foundation's success will be measured by how effectively it combines its resources with those of the private sector and other governmental entities in addressing the critical problems you mentioned. We believe that is absolutely correct.

OMB REQUEST LEVEL FOR GRADUATE STUDENT SUPPORT

Senator **Schmitt.** Could you provide for our record what your request to the OMB was in this education area?

Dr. **Slaughter.** Yes, we will.

[The information follows:]

GRADUATE STUDENT SUPPORT ESTIMATES—FISCAL YEAR 1982

In the area of graduate student support, the Foundation originally requested $15.2 million for graduate fellowships, $4 million for minority graduate fellowships and traineeships, and $3 million for engineering and computer science traineeships. The fiscal year 1982 request to OMB for graduate student support originally totaled $22.2 million.

MATCHING FUND APPROACH

Senator SCHMITT. Have you ever considered a matching fund approach, where NSF's money would be available to industry or other organizations on a matching basis?

Dr. SLAUGHTER. Yes; in some cases, that is done, particularly with grants for instrumentation. Universities were required to provide matching funds for those programs. The ocean margin drilling program is another program in which funds are matched on a 50–50 basis. The idea of matching and looking for other ways to finance some of the important investments is very much a part of our plan.

Senator SCHMITT. What about the possibility of using matching funds in order to retain some of the young professors in the university system? This might assist in raising young professors salaries to the point where it would be possible for them to stay at universities in the face of the more attractive financial offers coming from the private sector.

Dr. SLAUGHTER. We have looked at that also, Senator, and in some cases we are doing precisely that. Some NSF grants address the needs of young faculty in particular, providing the kind of support that allows them to initiate and remain in academic careers. The research grants in computer science come to mind; NSF provides a portion of the funds for launching the research activities of young computer scientists.

Senator SCHMITT. Let me say, I don't expect NSF or the Congress will be able to solve this problem. I think the private sector has to solve the problem. We can help, we can provide the catalyst, we can cajole, we can beat them over the head or whatever it takes, but that $10 billion or more is not going to come from the Federal Government. It has got to come out of the private sector and the private sector has to begin to realize that you can't continue to eat your seed corn and plant your farm.

And I will, and others, I hope, will continue to do that somehow, whether there are tax incentives or not. The private sector has to begin to help us educate the people in what they need and the country needs for the future. Otherwise it is not going to work. We will not sustain an economic recovery in face of foreign competition, of countries that understand their human resource problem far better than we do apparently and in the face of national threats or national security from adversaries such as the Soviet Union who obviously have a much easier time of putting people into necessary skill areas.

I wouldn't substitute their form of government for ours, but, nevertheless, we have to recognize the threat.

Dr. BRANSCOMB. Senator, one possible avenue for that kind of matching approach, private sector investments in improving educational base, is contained in S. 692, which is the proposal for a tax credit for industrial expenses in universities for research. I think something of that kind involves the Government and the private sector in a very good way, but it doesn't put the Government as a party to the details of the project.

Senator SCHMITT. Well, Secretary Regan assures me there will be a second tax bill and I hope that incentive, plus a number of other incentives, are contained in the bill. However, if a second tax bill is not proposed, I just don't think that industry can avoid going to their stockholders and just saying, "We have no choice; across the board we must begin to invest in the future of your investments. Otherwise 5 or 10 years from now the return on investment will obviously begin to drop." In fact, the other day, I asked a representative of the chemical industry if this was ever discussed at their stockholder meetings and the answer was "No." Fortunately, one of them said, "But it will be." We'll see.

OMB CIRCULAR A-21

Can you give me the status of NSF's discussions with the OMB on Circular A-21? Isn't it a requirement by OMB that scientists involved in research must report more fully the allocation of their time?

Dr. LANGENBERG. The only recent events that I am aware of concern a proposal for two revisions in A-21. They were published for comment in the Federal Register some months ago. One dealt with the possibility of allowing recovery of interest costs; the other with the use of something equivalent to independent research and development for universities. The comment period on those proposals has ended. I have not heard the OMB response to the comments or what further action will be.

Senator SCHMITT. Has NSF recommended to OMB that the circular be withdrawn?

Dr. LANGENBERG. No; we have not formally so recommended.

Senator SCHMITT. Would you expect to be doing that? It is absolutely ridiculous to expect grantees to be able to calculate the time they spend with the students versus research projects. You can't do that. What you will be getting back is erroneous information. I don't think there is any point in forcing people to lie.

Dr. SLAUGHTER. We are concerned about such regulations, because in many cases they cause onerous burdens. The National Science Board has expressed, informally, to the Office of Management and Budget the concerns of the scientific community with Circular A-21. At the moment, we are following the process that Dr. Langenberg identified. We will continue to monitor it carefully, and we will certainly express strongly our views on the application of A-21.

Senator SCHMITT. Could you review all of the relevant regulations, such as A-21, that affect the administrative overhead on the scientific community and report back to the committee as soon as possible on your findings and what recommendations you would have for improvements?

Dr. SLAUGHTER. Yes, we will, Senator.

Senator SCHMITT. What do you think would be a reasonable date for that report?

Dr. SLAUGHTER. For a careful and comprehensive evaluation, I think we should work with the committee staff to identify the time.

Senator SCHMITT. Why don't we try to do that? July 1 has been suggested.

Dr. SLAUGHTER. Let us examine it. We will coordinate with the staff on a due date.

Dr. LANGENBERG. Senator, I might remark that one of my academic colleagues recently mentioned some 60 regulations which affect the performance of research in universities. This is not a trivial project.

FISCAL YEAR 1981 PRIORITY FUNDING

Senator SCHMITT. Well, maybe sanity is beginning to creep into Washington. If the Congress were to restore some or all of the funds proposed for rescission by the administration, what would be the Foundation's priority?

Dr. SLAUGHTER. Senator, the Foundation's overriding priority in all cases is its core research programs. We believe restoring the funds cut from NSF's programs in natural and life sciences is the most important priority.

A second priority would be concerned with ancillary research programs. The program concerned with geographical distribution of NSF funds, programs for minorities and for international science activities would fall in that category. We also would continue the cooperative research activities with industry, and so forth. But, the most important priority would be to restore funds removed from the core research programs in physical sciences, natural sciences, and life sciences.

Senator SCHMITT. Do you think putting money back in these programs would be the more effective way to treat the education problem we just discussed, than to put money into additional scholarships and fellowships?

Dr. SLAUGHTER. Within the budgetary guidelines, the most effective way to address the fiscal year 1981 rescissions would be to put those funds in a research program. An education complement can be addressed through the assistantships and training opportunities in the existing research program. That is where we would recommend that funds be restored.

Senator SCHMITT. These priorities are not in any way biased by the fact that most of your advisory committees are composed of people who do grant work? I am not accusing anyone of a conflict of interest, but the interest in grant work may be greater than the interest in having fellowships for students. Is that a problem?

Dr. SLAUGHTER. No; I don't see that as a problem at all.

Senator SCHMITT. All I am saying is, if you had advisory committees composed of students, they would probably recommend fellowships.

Dr. SLAUGHTER. The number of students who benefit from research assistantships is sizable enough that we would get strong support for more assistantships. Certainly, the importance of fellowships is not discounted. I know the importance you attach to them.

Senator SCHMITT. Well, I have a conflict of interest, too, having received a fellowship and a member grant.

If we provide an additional $20 million, how would you use it?

Dr. SLAUGHTER. The additional $20 million would go into the mathematical and physical sciences and engineering.

EFFECTS OF INFLATION ON FISCAL YEAR 1982 BUDGET

Senator SCHMITT. Your January budget request was reduced from $1,353,500,000 to $1,033,500,000, or a $320 million reduction. At this level of funding, you will be about $20.5 million, or 2 percent, above the adjusted fiscal year 1981 level. Last year, the subcommittee asked you to discuss the effects of inflation on your fiscal year 1981 budget. Could you do that now in terms of your fiscal year 1982 budget?

Dr. SLAUGHTER. Yes. The impact of inflation on NSF's fiscal year 1982 budget is best seen by looking at increases we planned for the major areas of basic research. We have included in the fiscal year 1982 budget increases in physical and natural sciences, 18 percent in chemistry, 17.6 percent in physics, 25.6 percent in computer engineering. In the biological sciences, the increases are somewhat less than the inflationary rate, 6.7 percent. In the geophysical sciences, the proposed increases are about 12 to 13 percent, in most cases, just keeping up with inflation.

It is important to realize that much of the activity required to support experimental research today calls for investments in equipment and supplies, the costs of which outstrip the inflation rate in this country. Science is suffering seriously because exceedingly high costs are associated with the conduct of scientific experiments and research.

COMPARISON OF NUMBER OF GRANTS FUNDED IN EACH SCIENTIFIC SUBACTIVITY

Senator SCHMITT. We will include in the record the table that you prepared at the subcommittee's request which compares the number of grants funded in each scientific subactivity under your fiscal years 1980, 1981, and 1982 budgets.

[The information follows:]

NATIONAL SCIENCE FOUNDATION

SUMMARY OF AWARDS BY ACTIVITY - FY 1980, FY 1981, & FY 1982

Program Activity/Subactivity	Total Amount of Awards			Number of Awards			Average Award Amount			Percent Change - FY 82/FY 80		
	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Total Amount	No. of Awards	Average Award
Mathematical & Physical Sciences	$226,991,176	$248,220,000	$295,410,000	3,250	3,131	3,232	$69,843	$79,278	91,402	+30.1%	- 0.6%	+30.9%
Engineering......................	76,601,079	83,820,000	102,560,000	1,251	1,305	1,470	61,232	64,230	69,769	+33.9%	+17.5%	+13.9%
Biological, Behavioral, and Social Sciences.................	185,661,209	183,102,500	171,980,000	3,623	3,279	2 824	51,245	55,841	60,900	- 7.4%	-22.1%	+18.8%
Astronomical, Atmospheric, Earth, and Ocean Sciences............	150,259,854	159,281,000	177,520,000	1,859	1,864	1,922	80,828	85,451	92,362	+18.1%	+ 3.4%	+14.3%
Ocean Drilling Programs.........	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
U.S. Antarctic Program..........	7,375,457	8,800,000	7,500,000	126	145	125	58,535	60,690	60,000	+ 1.7%	- 0.8%	+ 2.5%
Scientific, Technological, and International Affairs.........	39,980,636	39,050,000	37,700,000	990	803	752	40,384	48,630	50,133	- 5.7%	-24.0%	+24.1%
Cross-Directorate Programs......	10,850,804	12,202,851	0	237	259	0	45,784	47,115	0	-100.0%	-100.0%	-100.0%
Science and Engineering Education	73,768,022	$61,404,000	9,862,000	2,902	2,827	1,116	25,448	21,791	8,840	-86.6%	-61.5%	-65.3%
Special Foreign Currency Program.	4,463,928	3,115,000	3,115,000	44	50	32	101,453	104,453	97,344	-30.2%	-27.3%	- 4.1%
TOTAL/AVERAGE, NSF...........	$775,952,165	$798,995,351	$805,647,000	14,282	13,663	11,473	$54,304	$58,265	$[illegible]970	+ 3.8%	-19.7%	+28.8%

SUMMARY OF AWARDS BY ACTIVITY - FY 1980, FY 1981, & FY 1982

Program Activity/Subactivity	Total Amount of Awards			Number of Awards			Average Award Amount			Percent Change - FY 82/FY 80		
	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Total Amount	No. of Awards	Average Award
Mathematical & Physical Sciences:												
Mathematical Sciences..........	$24,976,134	$27,210,000	$33,720,000	913	881	930	$27,356	$30,900	$36,258	+ 35.0%	+ 1.9%	+32.5%
Computer Research:	18,455,952	21,590,000	27,000,000	266	266	282	69,383	81,650	95,745	+ 36.3%	+ 6.0%	+38.0%
Physics........................	63,392,824	69,680,000	81,950,000	408	398	410	155,375	175,000	200,000	+ 29.3%	+ 0.5%	+28.7%
Chemistry......................	51,450,715	55,860,000	65,920,000	886	846	850	57,929	66,000	77,500	+ 28.1%	- 4.1%	+33.8%
Materials Research:	68,715,551	73,880,000	86,820,000	777	740	760	88,437	99,800	114,200	+ 26.3%	- 2.2%	+29.2%
Total/Average, MPS..........	226,991,176	248,220,000	295,410,000	3,250	3,131	3,232	$69,843	$79,278	91,402	+ 30.1%	- 0.6%	+30.9%
Engineering:												
Elect., Comp., & Systems Engrg.	18,889,100	22,640,000	28,440,000	349	390	450	54,123	58,100	63,200	+ 50.6%	+ 28.9%	+16.8%
Chemical and Process Engrg.....	15,980,257	17,500,000	21,730,000	316	330	370	50,570	53,000	58,700	+ 36.0%	+ 17.1%	+16.1%
Civil and Environmental Engrg..	27,875,594	27,610,000	32,040,000	356	340	370	78,302	81,200	86,500	+ 14.9%	+ 3.9%	+10.5%
Mech. Engrg. & Applied Mech....	13,856,128	16,070,000	20,350,000	230	245	280	60,244	65,600	72,000	+ 46.9%	+ 21.7%	+19.5%
Total/Average, ENG..........	76,601,079	83,820,000	102,560,000	1,251	1,305	1,470	61,232	64,230	69,769	+ 33.9%	+ 17.5%	+13.9%
Bio., Behavioral & Soc. Sciences:												
Physiol., Cell., & Mol. Biology	72,100,514	77,670,000	82,660,000	1,487	1,430	1,360	48,500	54,300	60,800	+ 14.6%	- 8.5%	+25.4%
Environmental Biology..........	39,709,807	41,110,000	43,880,000	717	690	690	55,340	59,500	63,700	+ 10.5%	- 3.8%	+15.1%
Behavioral & Neural Sciences...	36,820,053	34,590,000	29,160,000	842	710	540	43,700	48,900	53,800	- 20.8%	- 35.9%	+23.1%
Social & Economic Sciences.....	31,391,080	23,620,000	10,100,000	518	390	180	60,590	60,000	55,000	- 67.8%	- 65.3%	- 9.2%
Info. Science & Technology.....	5,639,755	6,112,500	6,180,000	59	59	54	95,589	103,601	114,444	+ 9.6%	- 8.5%	+19.7%
Total/Average, BBS..........	185,661,209	183,102,500	171,980,000	3,623	3,279	2,824	51,245	55,841	60,900	- 7.4%	- 22.1%	+18.8%
Astronomical, Atmospheric, Earth, and Ocean Sciences:												
Astronomical Sciences..........	17,661,518	18,931,000	21,280,000	244	239	248	72,383	79,209	85,572	+ 20.5%	+ 1.6%	+18.2%
Atmospheric Sciences...........	34,482,558	35,350,000	40,100,000	433	437	493	79,636	80,086	81,104	+ 16.3%	+ 13.9%	+ 1.8%
Earth Sciences.................	25,982,722	26,950,000	30,120,000	491	500	505	52,918	53,900	59,643	+ 15.9%	+ 2.9%	+12.7%
Ocean Sciences:												
Ocean Sci. Res. Proj. Support	41,638,036	45,710,000	49,320,000	522	520	500	79,766	87,903	98,640	+ 18.4%	- 4.2%	+23.7%
Oceanographic Facil.& Support	24,669,627	26,670,000	30,400,000	102	100	100	241,859	266,700	304,000	+ 23.2%	- 2.0%	+25.7%
Total/Ave., Ocean Sciences..	66,307,663	72,380,000	79,720,000	624	620	600	106,262	116,742	132,867	+ 20.2%	- 3.8%	+25.0%
Arctic Research Program........	5,825,393	5,670,000	6,300,000	67	68	76	86,900	83,400	82,900	+ 8.1%	+ 13.4%	- 4.3%
Total/Average, AAEO.........	150,259,854	159,281,000	177,520,000	1,859	1,864	1,922	80,828	85,451	92,362	+ 18.1%	+ 3.4%	+14.3%
Ocean Drilling Programs..........	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
U.S. Antarctic Program:												
U.S. Antarctic Research Program	7,375,457	8,800,000	7,500,000	126	145	125	58,535	60,690	60,000	+ 1.7%	- 0.8%	+ 2.5%
Operations Support.............	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Total/Average, USAP.........	7,375,457	8,800,000	7,500,000	126	145	125	$58,535	$60,690	$60,000	+ 1.7%	- 0.8%	+ 2.5%

SUMMARY OF AWARDS BY ACTIVITY - FY 1980, FY 1981, & FY 1982

Program Activity/Subactivity	Total Amount of Awards			Number of Awards			Average Award Amount			Percent Change - FY 82/FY 80		
	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Total Amount	No. of Awards	Average Award
Scientific, Technological and International Affairs:												
Industrial S&T Innovation......	$10,400,625	$16,900,000	$17,200,000	174	195	185	$59,774	$86,666	$92,973	+65.4%	+ 6.3%	+ 55.5%
Intergovtl & Public Svs S&T....	8,867,317	4,600,000	1,700,000	203	100	41	43,681	46,000	41,463	-80.9%	- 79.8%	- 5.1%
Internatl. Coop. Sci. Activ'ts.	13,726,483	10,050,000	10,600,000	454	340	345	30,235	29,559	30,725	-22.8%	- 24.0%	+ 1.6%
Policy Research and Analysis...	3,538,200	4,400,000	4,700,000	80	99	105	44,228	44,400	44,762	+32.8%	+ 31.3%	+ 1.2%
Science Resources Studies......	3,448,011	3,100,000	3,500,000	79	69	76	43,646	44,928	46,053	+ 1.5%	- 3.8%	+ 5.5%
Total/Average, STIA.........	39,980,636	39,050,000	37,700,000	990	803	752	40,384	48,630	50,133	- 5.7%	- 24.0%	+ 24.1%
Cross-Directorate Programs:												
Research Facil & Instrum'ntn...												
2-Year & 4-Year College Research Instrumentation...	3,376,588	2,800,000	0	189	140	0	17,865	20,000	0	-100.0%	-100.0%	-100.0%
Regional Instrmntn. Facil....	4,447,149	3,352,851	0	10	13	0	444,715	258,000	0	-100.0%	-100.0%	-100.0%
Tot/Ave, Res. Facil. & Inst.	7,823,737	6,152,851	0	199	153	0	39,315	40,215	0	-100.0%	-100.0%	-100.0%
Res. Initiation & Improvement:												
Minority Research Initiation.	0	1,400,000	0	0	28	0	0	50,000	0	-100.0%	-100.0%	-100.0%
Research Improvmt.in Minority Institutions...............	987,905	0	0	19	0	0	51,995	0	0	-100.0%	-100.0%	-100.0%
Experimntl Prog.to Stimulate Competitive Research.......	1,999,579	3,400,000	0	4	4	0	499,894	850,000	0	-100.0%	-100.0%	-100.0%
Postdoctoral Fellowships.....	xxx	900,000	0	1/ xx	51	0	xx	17,650	0	-100.0%	-100.0%	-100.0%
Tot/Ave, Res. Init. & Imprvt	2,987,484	5,700,000	0	23	83	0	129,891	66,675	0	-100.0%	-100.0%	-100.0%
NSF Planning and Evaluation....	39,583	350,000	0	15	23	0	2,639	15,200	0	-100.0%	-100.0%	-100.0%
Total/Average, CDP..........	10,850,804	12,202,851	0	237	259	0	45,784	47,115	0	-100.0%	-100.0%	-100.0%
Science & Engineering Education:												
Scientific Pers. Improvement:												
Faculty Improvement..........	11,786,969	10,200,000	0	406	360	0	29,032	28,330	0	-100.0%	-100.0%	-100.0%
Fellowships and Traineeships.	13,964,246	14,600,000	9,862,000	1,560	1,580	1,116	8,951	9,240	8,840	- 29.4%	- 28.5%	- 1.2%
Student-Oriented Programs....	5,116,529	5,700,000	0	295	327	0	17,300	17,430	0	-100.0%	-100.0%	-100.0%
Minorities,Women & Physically Handicapped in Science.....	2,227,044	3,000,000	0	64	80	0	34,800	37,500	0	-100.0%	-100.0%	-100.0%
Tot/Ave., Sci. Pers. Imprvmt	33,094,788	33,500,000	9,862,000	2,325	2,347	1,116	14,234	14,495	8,840	- 70.2%	- 52.0%	- 37.9%
Sci Ed. Resources Improvement:						0			0			
Comprehensive Assistance to Undergraduate Science......	13,291,491	7,904,000	0	66	40	0	201,400	200,000	0	-100.0%	-100.0%	-100.0%
Undergrad Instruct'nl Imprvmt	5,679,074	6,000,000	0	343	345	0	16,600	17,400	0	-100.0%	-100.0%	-100.0%
Resource Ctrs for Sci & Engrg	2,750,674	2,800,000	0	1	1	0	2,750,674	2,800,000	0	-100.0%	-100.0%	-100.0%
Tot/Ave,Sci.Ed.Res. Improvt.	21,721,239	16,704,000	0	410	386	0	53,200	43,300	0	-100.0%	-100.0%	-100.0%
Sci.Education Devel & Research:												
Development in Science Educ..	8,104,525	4,100,000	0	52	40	0	155,856	102,500	0	-100.0%	-100.0%	-100.0%
Research in Science Education	5,664,556	4,000,000	0	46	40	0	123,143	100,000	0	-100.0%	-100.0%	-100.0%
Tot/Ave, Sci. Ed. D&R.......	$13,769,081	$8,100,000	0	98	80	0	$140,501	$101,000	0	-100.0%	-100.0%	-100.0%

1/ Included under Science Education in FY 1980.

SUMMARY OF AWARDS BY ACTIVITY - FY 1980, FY 1981, & FY 1982

Program Activity/Subactivity	Total Amount of Awards			Number of Awards			Average Award Amount			Percent Change - FY 82/FY 80		
	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Actual FY 1980	Estimate FY 1981	Estimate FY 1982	Total Amount	No. of Awards	Average Award
Science and Engrg. Educ.(Contd.):												
Science Educ. Communication:												
Public Understand'g of Sci...	$3,912,161	$3,100,000	0	28	14	0	$139,720	$221,428	0	-100.0%	-100.0%	-100.0%
Information Dissemination for Science Education......	1,270,753	0	0	41	0	0	30,994	0	0	-100.0%	-100.0%	-100.0%
Tot/Ave, Sci. Ed. Communi...	5,182,914	3,100,000	0	49	14	0	75,115	221,428	0	-100.0%	-100.0%	-100.0%
Total/Average, SEE..........	73,768,022	$61,404,000	9,862,000	2,902	2,827	1,116	25,448	21,791	8,840	- 86.6%	- 61.5%	- 65.3%
Special Foreign Currency Program.	4,463,928	3,115,000	3,115,000	44	50	32	101,453	104,453	97,344	- 30.2%	- 27.3%	- 4.1%
TOTAL/AVERAGE, NSF..........	$775,952,165	$798,995,351	$805,647,000	14,282	13,663	11,473	$ 54,304	$58,265	$69,970	+ 3.8%	- 19.7%	+28.8%

Senator SCHMITT. Do you wish to make any explanatory comments about that table?

Dr. SLAUGHTER. I would say, Senator, that there are only two avenues available to us in supporting a particular discipline during the kind of inflationary period we find ourselves in. We can increase the number of awards but decrease the size of the award, or we can increase the average size of the awards. These important tradeoffs must be examined.

NSF's program managers do an effective job in helping us to determine in a particular discipline the right direction. We will explain the information in the table so that you can judge the directions we are taking.

[The information follows:]

NSF AWARDS - FY 1980, FY 1981, AND FY 1982

The following tables summarize the Foundation's awards for fiscal years 1980, 1981, and 1982, by (a) Total Amount of Awards, (b) Number of Awards, and (c) Average Award Amount. They also show the percent of change of FY 1982 over FY 1980 for categories (a), (b), and (c). FY 1980 is used as the base year to provide a comparison of FY 1982 data with the most recent actual full-year experience.

The trends from FY 1980 to FY 1982, as indicated by the percentage figures, clearly reflect the priorities that guided the development of the revised FY 1982 budget. That is, they show that strong support is provided for research projects in nearly all areas except behavioral, social, and economic sciences and that major reductions and terminations are being made in the Scientific, Technological, and International Affairs; Cross-Directorate Programs; and Science and Engineering Education program activities, as compared to FY 1980 levels.

Total Support

- The total NSF budget request for FY 1982 represents an increase of six percent over the FY 1980 level. Within this amount, the total amount budgeted for support of awards increases by approximately 3.8 percent.
- By comparison, the total number of awards is projected to decrease by about 19.7 percent over the FY 1980 level, while the average award is expected to increase by almost 29 percent.
- At the same time, although not shown by the tables, support for advanced research instrumentation and equipment is planned to increase by approximately 5.7 percent.
- The average award size and equipment support are being increased to at least partially offset the effects of inflation and to help meet the rising costs inherent in the performance of advanced and increasingly sophisticated and expensive research.

Mathematical and Physical Sciences

- Overall funding budgeted for awards in the Mathematical and Physical Sciences program activity for FY 1982 is 30.1 percent above the FY 1980 level.
- A major share of the increase will be devoted to increases in the average grant amount, which is expected to increase by almost 31 percent, while the number of grants is expected to remain relatively unchanged from FY 1980.
- Also, support for equipment under the MPS program activity will increase by more than 44 percent in FY 1982 over the FY 1980 level.
- Support for scientists, in terms of scientist-years, is expected

to increase by about five percent. The number of graduate students supported under this activity will remain at substantially the same level as in FY 1980.

- Although the number of awards will remain about constant, the planned increases in award size, in the number of scientist-years supported, and in the support of equipment needed for the conduct of advanced research are in keeping with the Foundation's established priorities, which call for continued strong support for this area of research.

Engineering

- Overall funding for Engineering is expected to increase by almost 34 percent over FY 1980.

- Both the number of awards and the average grant size are projected to increase substantially; that is, 17.5 percent and 13.9 percent, respectively.

- At the same time, the number of scientist-years and the number of graduate students supported will increase by about 17 percent and 15 percent, respectively, over the FY 1980 level, and support of equipment will increase by an estimated 50 percent.

- These increases reflect the Foundation's decision to give very high priority to increasing the support of engineering in FY 1981 and FY 1982.

Biological, Behavioral and Social Sciences

- Overall funding for research project support in the Biological, Behavioral, and Social Sciences area will decrease by about 7.4 percent over the FY 1980 level.

- Support for scientist-years is expected to decrease by about 18.5 percent and the number of graduate students supported by approximately 23 percent.

- The dollar amount of awards supported and the average award amounts for Physiology, Cellular and Molecular Biology show significant increases of 14.6 percent and 25.4 percent, respectively, with a decrease of about 8.5 percent in the numbers of awards to be made in FY 1982, compared to FY 1980. Equipment support will increase by an estimated 33.4 percent.

- The Environmental Biology subactivity is projected for an increase of 10.5 percent in total award amount, a 15.1 percent rise in average award size, and an increase of about 10 percent in support of equipment, compared to FY 1980. The number of awards will remain at essentially the FY 1980 level.

- On the other hand, the total dollar amounts of awards, the numbers of awards, and the support of equipment under Behavioral and Neural Sciences and under Social and Economic Sciences are scheduled for major percentage decreases.

- These trends clearly reflect the high priority being given to biology research and the sharp reductions budgeted for support of the social, behavioral, and economic sciences.

Astronomical, Atmospheric, Earth, and Ocean Sciences

- Overall funding budgeted for the Astronomical, Atmospheric, Earth, and Ocean Sciences activity for FY 1982 represents an increase of 16.1 percent over FY 1980. The amount budgeted for research project support awards increases by about 18.1 percent.

- The average award amount is projected to increase by 14.3 percent. This is essentially an inflation offset.

- The number of awards and the support of equipment are projected for relatively minor increases of about 3.4 percent and 5.6 percent, respectively.

- Support for scientist-years and numbers of graduate students will be slightly above the FY 1980 levels; that is, up by about two percent for both categories.

- The research project support funding increases are spread fairly evenly among the various AAEO subactivities and, except for the Atmospheric Sciences, are applied mainly to increases in the sizes of the average grants and to equipment support, with the numbers of awards remaining substantially level.

- A 16.3 percent increase in the funding of Atmospheric Sciences research project support will be used primarily to support a 13.9 percent rise in the number of awards, with the average grant size remaining about the same as in FY 1980.

Ocean Drilling Programs

- The Ocean Drilling Programs are not grant-awarding programs, so are not included in the data tables.

U.S. Antarctic Program

- An overall funding increase of 25.5 percent over the FY 1980 level is requested for the U.S. Antarctic Program. However, nearly all of it is intended for the Operations Support program, which does not involve support of awards.

- No significant increases or decreases are planned for the U.S. Antarctic Research Program for FY 1982, compared to FY 1980.

Scientific, Technological, and International Affairs

- Overall dollar awards under the STIA activity will decrease by about 5.7 percent, compared to FY 1980. This decrease and a 24.1 percent increase in average award size will be accommodated by a 24 percent decrease in the number of awards.

- The Industrial S&T Innovation subactivity is projected for an

- These trends clearly reflect the high priority being given to biology research and the sharp reductions budgeted for support of the social, behavioral, and economic sciences.

Astronomical, Atmospheric, Earth, and Ocean Sciences

- Overall funding budgeted for the Astronomical, Atmospheric, Earth, and Ocean Sciences activity for FY 1982 represents an increase of 16.1 percent over FY 1980. The amount budgeted for research project support awards increases by about 18.1 percent.

- The average award amount is projected to increase by 14.3 percent. This is essentially an inflation offset.

- The number of awards and the support of equipment are projected for relatively minor increases of about 3.4 percent and 5.6 percent, respectively.

- Support for scientist-years and numbers of graduate students will be slightly above the FY 1980 levels; that is, up by about two percent for both categories.

- The research project support funding increases are spread fairly evenly among the various AAEO subactivities and, except for the Atmospheric Sciences, are applied mainly to increases in the sizes of the average grants and to equipment support, with the numbers of awards remaining substantially level.

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- No significant increases or decreases are planned for the U.S. Antarctic Research Program for FY 1982, compared to FY 1980.

Scientific, Technological, and International Affairs

- Overall dollar awards under the STIA activity will decrease by about 5.7 percent, compared to FY 1980. This decrease and a 24.1 percent increase in average award size will be accommodated by a 24 percent decrease in the number of awards.

- The Industrial S&T Innovation subactivity is projected for an increase of 65.4 percent in total funding, compared to FY 1980, an increase of 6.3 percent in the number of awards, and a 55.5 percent increase in average award size. At the same time, the number of scientist-years supported is expected to decrease by 9.7 percent and the support of graduate students will be reduced by an estimated 19.5 percent.

- The Policy Research and Analysis subactivity is budgeted for a 31 percent funding increase above the FY 1980 level. The numbers of awards, scientist-years, and graduate students supported are expected to grow by about 31 percent each.
- Science Resources Studies will remain about level.
- Major decreases in total award funding (-81%), numbers of awards (-80%), scientist-years (-86%), and number of graduate students supported (-100%), compared to FY 1980, are proposed for Intergovernmental and Public Service Science and Technology.
- The International Cooperative Scientific Activities subactivity is budgeted for a 22.8 percent decrease in award funding and a 24 percent reduction in the number of awards supported. The support of scientist-years and graduate students will be reduced by 39 percent and 49 percent, respectively. The average award size will be up slightly, about 1.6 percent, compared to FY 1980.

Cross-Directorate Programs

- All Cross-Directorate Programs activities will be terminated or cancelled in FY 1982, in accordance with priority guidance calling for termination of "narrowly focused" and "lower immediate priority" activities and cancellation of all planned "new starts." Consequently, the tables show 100 percent reductions for these activities, compared to FY 1980.

Science and Engineering Education

- All Science and Engineering Education activities other than Fellowships and Traineeships are scheduled for termination in FY 1982 and, therefore, show 100 percent reductions from their FY 1980 levels.
- Funding will be provided for the second and third year continuations of fellowships and traineeships awarded in prior years. The dollar amount of funding for fellowships and traineeships will decrease about 29.4 percent, compared to FY 1980, and the number of awards will decrease by an estimated 28.5 percent. The 1,116 awards for FY 1982, shown in the table, represent the continued support of awards made in prior years. No new awards will be initiated in FY 1982. The average award size will remain essentially level.

Special Foreign Currency Program

- The funding of awards under the Special Foreign Currency Program will decrease by about 30 percent from the FY 1980 level, the number of awards by approximately 27 percent, and the average award amount by an estimated 4.1 percent.
- These reductions reflect a decrease in the availability of U.S.-owned foreign currencies designated by the Department of the Treasury as being excess to normal requirements of the U.S. Government.

Senator SCHMITT. Also included with that table is a chart provided to us by the Independent Colleges Office dated March 24, 1981, which shows the relative expenditures for total NSF budget versus expenditures for science education. I find it very illuminating, and very discouraging in some respects.

Were you given a specific dollar figure to meet in arriving at your fiscal year 1982 budget?

Dr. SLAUGHTER. Yes, we were.

OMB TARGET GUIDELINES

Senator SCHMITT. How did the initial OMB target compare with the current $320 million reduction?

Dr. SLAUGHTER. The January figure given us by OMB was $1,353,500,000. The initial reduction was $243 million, I believe. Shortly after that time another $77 million was cut.

Senator SCHMITT. Did OMB provide you with any specific guidelines on how to meet that number or was that left to the NSF's discretion?

Dr. SLAUGHTER. The OMB attached specific guidelines to the final dollar figures indicating where reductions were to be made.

Senator SCHMITT. Could we have for our record an indication of what those guidelines were?

Dr. SLAUGHTER. Yes.

Senator SCHMITT. Do you have any idea how OMB developed those guidelines?

Dr. SLAUGHTER. No; we were not involved in those discussions, Senator.

Senator SCHMITT. I am sure OMB has their own scientific staff to provide them with that kind of judgment.

Were you given any leeway to modify their specific recommendations?

Dr. SLAUGHTER. Only in limited areas, Senator.

[The information follows:]

OMB GUIDELINES FOR REDUCTION OF THE ORIGINAL FY 1982 ESTIMATE
In Millions of Dollars

	Amount of Reduction
Initial OMB Reduction:	
Science and Engineering Education:	
Fellowship/Traineeships	-4.0
Minorities/Women/Handicapped	-1.0
Comprehensive Assistance to Undergraduate Education	-12.0
Science Education Communication	-2.0
Engineering Training Equipment	-25.0
Curriculum Development	-7.0
Other Programs	+4.0
Subtotal, Science and Engineering Education	-47.0
Biological, Behavioral and Social Sciences:	
Behavioral and Neural Sciences	-10.0
Social and Economic Sciences	-30.0
Subtotal, Biological, Behavioral and Social Sciences	-40.0
Scientific, Technical and International Affairs:	
Industry/University Cooperative Research	-17.0
Small Business Innovation	-10.0
Intergovernmental Science and Public Service	-7.0
International Cooperative Scientific Activities	-6.0
Other Programs	-2.0
Subtotal, Scientific, Technological and International Affairs	-42.0
Cross-Directorate Programs (Total Activity)	-98.0
Astronomical, Atmospheric, Earth and Ocean Sciences:	
Astronomy (25 meter telescope)	-10.0
Ocean Margin Drilling Program	-4.0
Other Programs (Program Development and Management)	-2.0
Subtotal, Initial OMB Reduction	243.0

Later OMB Reductions:

Basic Research		-20.0
Distributed as follows:		
Mathematical and Physical Sciences	$-5.9	
Engineering	-2.1	
Biological, Behavioral and Social Sciences	-7.1	
Astronomical, Atmospheric, Earth and Ocean Sciences	-4.9	
Science and Engineering Education		-55.0
Program Development and Management		-2.0
Subtotal, Later OMB Reductions		77.0
TOTAL Reductions		320.0

MECHANISM FOR MAKING CROSS-DISCIPLINE DECISIONS

Senator SCHMITT. It certainly is a very unusual year and I would certainly admit that, as I think everyone must, the President does have a mandate and he has proceeded expeditiously to exercise that mandate. But do you believe that, generally, the Foundation and its interaction with the scientific community can provide the perspective and mechanism for making cross-discipline bioriented decisions?

Dr. SLAUGHTER. The Foundation is adequately prepared to do so. The National Science Board, the staff of the Foundation, the administration, and the scientific community provide us the mechanism for such decisions.

Senator SCHMITT. Do you believe that you will have more of an opportunity to exercise that mechanism for the development of the fiscal year 1983 and subsequent budgets than you had for the 1982 budget?

Dr. SLAUGHTER. Yes, I do. I feel very definitely that will be the case.

Senator SCHMITT. Has that been indicated by Mr. Stockman or other officials at OMB?

Dr. SLAUGHTER. We have had good discussions with members of the Office of Management and Budget. I have not discussed that specifically with Mr. Stockman himself, but I have discussed it with officials of OMB. We are already laying groundwork for meaningful discussions of the fiscal year 1983 budget.

AUTHORIZATION ACTION ON NSF FISCAL YEAR 1982 BUDGET

Senator SCHMITT. Could you bring the committee up to date on the action of your authorizing committees relative to fiscal year 1982? Has there been any final action?

Dr. SLAUGHTER. The House Science and Technology Committee recommends an NSF budget for fiscal year 1982 at $1,160,700,000. That is up from $1,033,500,000. The additions within the committee's figure represent an increase of $65.1 million for science and engineering education, up from $9.9 million, and some increases for support of the behavioral and social sciences and for international activities. We will be happy to provide specific numbers to show those suggested increases.

[The information follows:]

AUTHORIZATION ACTION TO DATE ON NSF FISCAL YEAR 1982 BUDGET

The only action on the Foundation's fiscal year 1982 authorization to date (April 30, 1981) has been the House Subcommittee on Science, Research, and Technology's recommendation, summarized as follows:

[In millions of dollars]

	National Science Foundation request	House subcommittee bill	Difference
Mathematical and physical sciences	$295.4	$295.4	
Engineering	102.6	102.6	
Biological, behavioral, and social sciences	172.0	198.1	+$26.1
Astronomical, atmospheric Earth, and ocean sciences	253.2	253.2	
Ocean drilling programs	26.0	14.0	−12.0
U.S. Antarctic program	70.1	69.6	−0.5
Scientific, technological, and international affairs	37.7	56.4	+18.7
Cross-directorate program		29.7	+29.7
Program development and management	63.2	63.2	
Science education	9.9	75.0	+65.1
Special foreign currency	3.5	3.5	
Total	1033.5	1160.7	+127.2

NOTE.—Detail may not add to totals because of rounding.

RESTORATION OF $320 MILLION IN PRIORITY ORDER

Senator SCHMITT. Please provide for the record, in order of priority, the list of items that would be restored if the committee was to provide NSF with the level of funding requested in the January budget.

Dr. SLAUGHTER. Yes, Senator.

[The information follows:]

The following ranking in priority order of the total $320 million deleted from the NSF original FY 1982 request is divided into four sets. Set I compares the amended FY 1982 request with the FY 1981 Revised Plan. Set II adds an additional $50 million to the amended FY 1982 request, Set III adds an additional $100 million and Set IV adds the remaining $170 million.

NATIONAL SCIENCE FOUNDATION
FY 1982 PRIORITY SET I
$1,033.5M
(Dollars in Millions)

		FY 1981	FY 1982
Physical Sciences	Mathematics, Computer, Chemistry, Physics, & Materials Research	$ 248.2	$ 295.4
Engineering	Electrical, Computer and Systems Eng.; Chemical and Process Engineering; Civil and Environmental including Earthquake Hazard Mitigation and Mechanical Engineering	83.8	102.6
Astronomy	Astronomy Research Project Support & 5 National Research Centers	56.5	63.8
Geophysical Sciences	Earth, Ocean, & Atmospheric Sciences including Operational Support for 21 research vessels and the National Center for Atmospheric Research	171.5	189.3
Biological & Neural Sciences	Physiological, Cellular & Molecular and Environmental Biology and Neurosciences	135.6	144.7
Behavioral, Social, & Economic Sciences	Cognition, Behavior, Applied Psychology, Linguistics, Anthropology, Geography, Economics, Sociology, Political Science, Law, and Information Science & Technology	47.5	27.3
Ocean Drilling Programs	Ocean Drilling Programs Deep Sea Drilling (FY 81, $17.0M; FY 82, $14.0M) and Ocean Margin Drilling (FY 81, $5.0M; FY 82, $12.0M)	22.0	26.0
U.S. Antarctic Program	U.S. Antarctic Program	64.7	70.1
Scientific, Technological & International Affairs	Industry/University Cooperative Research, International Cooperative Scientific Activities, Science Resource Studies, Small Business Innovations, Innovation Process Research, Policy Research and Analysis and Ethics and Values in Science	36.0	37.7
Science & Engineering Education	Fellowships, Second and Third Year Commitments	64.7	9.9
Program Development & Management	Salaries and Expenses	60.7	63.2
Cross Directorate Programs	2/4 Year College Research Instrumentation Regional Instrumentation Facilities, Geographic Distribution and Integrated Basic Research	16.2	-0-
Excess Foreign Currency	Special Foreign Currency Program	5.6	3.5
	Subtotal, Priority Set I, March 10, 1981	$1,013.0	$1,033.5

NATIONAL SCIENCE FOUNDATION
FY 1982 PRIORITY SET II
$50.0M
(In Millions of Dollars)

		Amount
Physical Sciences	Mathematics, Computer Chemistry Physics, and Materials Research (New Total $300.4M)	$ 5.0
Engineering	Electrical, Computer and Systems Eng.; Chemical and Process Engineering; Civil and Environmental including Earthquake Hazard Mitigation and Mechanical Engineering (New Total $104.6M)	2.0
Astronomy	Astronomy Research Project Support and 5 National Research Centers (New Total, $65.3M)	1.5
Geophysical Sciences	Earth, Ocean, and Astmospheric Sciences including support for research vessel operations and the National Center for Atmospheric Research (New Total, $191.8M)	2.5
Biological & Neural Sciences	Physiological, Cellular & Molecular and and Environmental Biology and Neurosciences (New total, $147.7M)	3.0
Behavioral, Social and Economic Sciences	Cognition, Behavior, Applied Psychology, Linguistics, Anthropology, Geography, Economics, Sociology, Political Science, and Law (New Total, $36.3M)	9.0
University Research Labs & Instrumentation	Upgrade University Research Laboratories and provide major new equipment. Aimed at improving research productivity and strengthening U.S. science position (Cross Directorate Programs, New Total $20.0M)	20.0
International Cooperative Science	Bilateral cooperative research and related programs (STIA, New Total, $39.7M)	2.0
Science & Engineering Education	Needs analysis and program development (New Total, $14.9M)	5.0
	Subtotal, SET II	$ 50.0
	Cumulative	$1,083.5

NATIONAL SCIENCE FOUNDATION
FY 1982 PRIORITY SET III
$100.0M
(Dollars in Millions)

		Increment FY 1982
Univ. Res. Labs	University Research Laboratories and Instrumentation Upgrading, Cross Directorate Programs (New Total $45.0M)	$ 25.0
Science & Engineering Education	Teacher Training for Pre college and Undergraduate Science and Engineering Education (New Total $39.9M)	25.0
Minorities and Women	Minorities and Women in Science, Research Opportunity Grants, Minority Research Participation, Cross Directorate (New Total, $54.0M)	9.0
Special Research Programs	2/4 Year College Instrumentation, and Honorary Awards, Geographic Distribution, Planning and Policy Studies, Evaluation--Cross Directorate (New Total $63.8M)	9.8
Science & Engineering Education	Activities Directed at Increased and Improved Student Participation in Pre College Science Education Science and Engineering Education (New Total $54.9M)	15.0
Regional Facilities	Regional Instrumentation Facilities - 14 facilities in operation, Cross Directorate Programs (New Total $66.8M)	3.0
International Science	International Cooperative Science Activities (excluding U.S./U.S.S.R. Cooperative Research held at $0.4M, STIA New Total $43.1M)	3.4
Research Telescope	25 Meter, Millimeter Wave-Length Telescope, First increment of 3-year $29.3M instrument, Astronomical, Atmospheric, Earth & Ocean Sciences (New Total $266.9M)	9.8
	Subtotal, Set III	$ 100.0
	Cumulative	$1,183.5

NATIONAL SCIENCE FOUNDATION
FY 1982 PRIORITY SET IV
$170.0M
(Dollars in Millions)

		FY 1982
Science & Engineering Education	Undergraduate Instructional Equipment, Emphasis on Computer Science and Engineering Education (S&EE New Total, $79.9M)	$ 25.0
Behav., Soc., and Economic Sciences	Cognition, Behavior, Applied Psychology, Linguistics, Anthropology, Geography, Economics, Sociology, Political Science, Law, and Information Science & Technology (BBS, New Total, $219.0M)	35.0
Industry/University Cooperative Research	Industry/University Cooperative Research Projects (STIA, New Total, $60.4M)	17.3
University Labs and Instrumentation	University Research Laboratory and Instrumentation Upgrading (Cross Directorate, New Total, $96.8M)	30.0
Engineering Traineeships	Special effort to encourage high quality students to pursue engineering careers (S&EE, New Total, $83.0M)	3.1
Scientific, Technological, & International Affairs	Small Business Innovation and University-Based Innovation Centers (STIA, New Total, $71.2M)	10.8
Science & Engineering Education	Faculty Development, Undergraduate Instructional Improvement and R&D in S&EE (New total, $111.9M)	28.9
Scientific, Technological, & International Affairs	Science for Citizens, Intergovernmental Science and U.S./U.S.S.R. Cooperative Research (STIA, New Total, $80.0M)	8.8
Ocean Drilling Program	Ocean Margin Drilling, long-lead time procurements (ODP, New Total, $30.0M)	4.0
Other Support	Mathematical and Physical Sciences ($0.9, New Total, $301.3M); Astronomical Atmospheric, Earth and Ocean Sciences (1.1, New Total, $268.0M); Cross Directorate Programs ($1.1, New Total, $97.9M)	3.1
Program Development Management	Salaries and Expenses (PD&M, New Total, $67.2M)	4.0
	Subtotal, Set IV	170.0
	TOTAL	$1,353.5

SUBMITTED QUESTIONS

Senator **Schmitt**. Gentlemen, it is unfortunate, but I am in the middle of a markup on the Intelligence Committee activities and I must return to that at this time. Therefore, I am going to submit the rest of the committee questions to you for response in the record.

Thank you very much, Doctor. We will have other opportunities to work together.

Dr. **Slaughter**. Thank you.

[The following questions were not asked at the hearing but were submitted to the Foundation for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR GARN

INTEGRATION OF BASIC AND APPLIED RESEARCH

Question : This year the Foundation combined its applied and Basic Research Programs.

What was the rationale for this reorganization?

Answer: This reorganization had three primary objectives: (i) enhancement of the role of engineering research in the Foundation; (ii) expansion of the Foundation's commitment to support, selectively, high quality applied research across all areas of science; and (iii) strengthening the link between basic and applied research across NSF. Prior to the reorganization, applied research was associated, with engineering in the Directorate for Engineering and Applied Science (EAS). At the time of the reorganization, appropriate portions of the applied research activity, e.g., Production Research and Technology and Earthquake Engineering remained with the newly-created Engineering Directorate. The remainder was distributed throughout the Foundation so that each research program had an applied component. It will take some time for such things as advisory panels and the lists of peer reviewers to be adjusted to reflect these changes. But we strongly believe that in the long run, the objectives underlying this reorganization will be fully met.

Question: What steps are you taking to assure that the applied program continues to receive the visibility it needs within NSF?

Answer: The steps vary from directorate to directorate. In the case of engineering, for example, several focused programs, e.g., mineral processing, earthquake engineering, and production research were transferred intact. They continue to relate to the same research community and to the same group of users and are managed by the same program officers.

Other directorates which have had less previous experience with applied research are in the process of adjusting their programs, advisory committee membership, and lists of reviewers to reflect their new responsibilities. They will also take appropriate steps to notify their research communities of the expanded opportunities for applied research. Finally, a new proposal tracking system will be implemented in FY 1982 in order to monitor applied research and the implementation of these procedural changes.

Question: How will the applied programs be integrated into the ZBB decision-making process?

Externally we would like to continue to track the applied program--so please continue to collect funding data in such a manner that applied and basic research can be separated.

Answer: Again, the situation varies from directorate to directorate. The Engineering Directorate has several focused programs which were primarily part of the applied research activity. These will now be part of the budget base of that directorate and participate in the budget decision-making process. However, in other directorates, the exact mechanisms for including applied research as an identifiable part of future budget decision-making are still being worked out.

HIRING FREEZE

Question: What administrative or programmatic impact, if any, will the hiring freeze have at NSF?

What about the effect on programs that are expanding such as Mathematics and Ocean Margin Drilling?

Answer: The effect of the hiring freeze on the Foundation is that there will be less staff to administer programs and to provide essential support services.

On March 19th, OMB informed the Foundation that the hiring freeze could be lifted so long as the revised employment ceilings were not exceeded. The revised end-of-year permanent full-time position ceiling for FY 1981 is 1218, a reduction of 75 from what was originally planned. In FY 1982 the comparable ceiling expressed in full-time equivalent employment is 1158, a further reduction of 60.

Programmatic staffing requirements will be reviewed against these ceilings and to the extent possible the requirements of expanding programs will be met. Tentative FY 1982 staffing allocations provide limited increases in Mathematical and Physical Sciences (4), Engineering (3) and Astronomical, Atmospheric, Earth and Ocean Sciences, including the Ocean Drilling Programs (7). These will be offset by reductions in other program areas which are being eliminated or for which funding is being reduced.

FELLOWSHIP PROGRAM

Question: Your January budget contains $111.9 million for Science and Engineering Education. The revised request contains $9.9 million. These funds are to be used to close out the second and third year of fellowship programs.

How much would be required to continue the fellowship programs at the January level and how many students would be funded?

Answer: The January budget contained two fellowship programs--the Graduate Fellowship Program and the Minority Graduate Fellowship Program.

- If the Graduate Fellowships program were to be continued at the January level, $15.2M would be needed. This would provide support for 410 new Graduate Fellowships and the continued support of 965 prior year awardees.

- If the Minority Graduate Fellowships program were to be continued at the January level, $2.8M would be needed. This would provide support for 105 new Minority Graduate Fellowships and the continued support of 150 prior year awardees.

- o Therefore, to continue the two fellowship programs at the January level it would be necessary to add \$8.1M to the current request of \$9.9M for a total of \$18.0M for fellowships.

Question: I understand that the Foundation is considering the possibility of funding the fellowship program into the various directorates.

What would be the implications of the policy, and how much of the cost could be absorbed by the various directorates?

Answer: There has been discussion of funding the Fellowship program through the Directorates. Although the discussions are still in an early stage and nothing has been finalized, one approach would be to continue to administer the program as it is now, centrally, and after the award selection had been made, to bill the appropriate Directorates or even Divisions for the number of awards made in the disciplines they normally support.

With such an approach, the Graduate Fellowship program with respect to selection, awards and administration would remain the same.

POST PERFORMANCE EVALUATION

Question: Both in 1980 and 1981 this Committee requested NSF to develop a coherent and effective system of post-research evaluation. In making this requst, the Committee recognized that Federal investment in science is substantial and, while the benefits of scientific research are often obvious, better understanding of the value of particular research results is often needed to make sensible planning and budgetary decisions.

While I was not a member of this Subcommittee last year, I am convinced that post-research evaluation efforts are meaningful and important. Post performance evaluation activities could provide the scientific community and the NSF with a better understanding of how successful science is supported and performed. An ongoing examination of selected projects and research programs is necessary in order to provide a clearer insight into the factors that lead to the most productive research.

As a result last year, the Committee directed NSF to secure an independent third party to develop a methodology for post-performance evaluation of scientific research endeavors.

On March 2, you received a draft proposal from the National Academy of Sciences to conduct the first phase of a two phase effort.

What is the current status of this program?

That draft proposal identified several possible approaches to the study. The Committee would be most interested in pursuing the relationship between what is originally proposed by the investigator and the actual result of the research with particular emphasis on how this information can be used to sharpen the peer review process.

I hope you will make this a major objective of the study.

Answer: We agree that this study is of great importance. We have now received the formal proposal from the National Academy of Sciences and are in the process of making a formal contract. The NAS-NRC staff has informed us of the names of those selected thus far for membership on the steering committee for the study; all of these individuals have outstanding backgrounds. If schedules of the members permit, the first meeting will be in May 1981. A major emphasis of the study will be the examination of methods for determining the quality and significance of the results of the research effort supported. By comparing actual results with the quality and significance predicted by the original peer review of a project, it is expected that possible improvements in the peer review process can be identified.

NSF has kept the Committee staff informed of progress on this proposal. When final arrangements are made with the Academy, we will provide more detailed information on the award.

INSTRUMENTATION PROGRAM

Question:

In your January budget, you requested $75 million for a new program entitled University Research Laboratories and Instrumentations.

The objective of this program was to:

o Help upgrade instrumentation and facilities at major university research laboratories

The revised budget does not permit funds for initiating this program.

What was the original rationale of proposing this program?

Did the Foundation develop a plan for the distribution of this $75 million -- what were the eligibility requirements?

Please submit the plan for the record.

How does this program differ from the $90.2 million mentioned in your opening statement, that is included in the revised budget for equipment and instrumentation need?

Answer:

Scientific advance is instrument-driven. Since university laboratories are obsolescing, deteriorating, and maladapted to research needs, the scientific productivity of strong research groups is being limited by equipment and laboratory deficiencies. A consequence may well be an erosion of U.S. preeminence in areas that are important to the technological and economic well-being of the Nation.

Costs of scientific instrumentation are high and rising rapidly. NSF spent $91.9 million in FY 1980 for research facilities and instrumentation. Despite the squeezing of research grants to provide research apparatus, the instrumentation deficit, overall, is becoming worse. No means now exist either for catching-up or supplying continuing major instrumentation/facilities needs. The proposed University Research Laboratories and Instrumentation Program (URLI) was an effort to reduce the backlog, create a mechanism for preventing its recurrence, and improve and maintain high productivity in frontier science and engineering research. Extensive planning has taken place, and a tentative program structure has been developed. Its essential features--including eligibility, are shown below.

TENTATIVE PROGRAM PLAN

UNIVERSITY RESEARCH LABORATORIES AND INSTRUMENTATION (URLI)

Program Goal

The purpose of the URLI Program is to strengthen research capability by upgrading and modernizing the "hardware" base of modern scientific research in universities. Major research instrumentation, equipment, the facilities housing it, and costs of operation and maintenance are included.

Program Structure

URLI covers all areas of science and engineering research.

Institutions awarding a doctorate in the sciences or engineering are eligible. A university may submit only one proposal per year; area priority is set by the the submitting university.

Institutions will have flexibility in shaping their projects. Requests may include research instrumentation and equipment; the renovation, upgrading, or construction of research facilities essential for their effective use; and associated operation and maintenance costs. Equipment/instrumentation acquisition and facilities modernization must be necessary, mutually complementary and comprise a single coherent The project must have a single well-defined focus.

research in universities. Major research instrumentation, equipment, the facilities housing it, and costs of operation and maintenance are included.

Up to one-half of the project's estimated cost may be requested from the NSF, with the remainder to come from non-Federal sources. Indirect costs are neither allowed nor countable towards the institution's share. Considerable latitude in the form of the costsharing will be permitted. Project size will be left open-ended, with most awards expected to be in the $500,000 - $1,000,000 range.

Proposals must be directed toward enhancing an existing institutional research capability of demonstrated strength, and not to creating one de novo, nor strengthening a weak area. Scientific merit and the clear ability to use the improvement effectively will be the primary basis for award. There will be be no set-aside of program funds by discipline or type of instrumentation.

Review Plan

Proposals will be subject to scientific peer review and examination for architectural adequacy and financial feasibility. Reviewers will be recognized scientists and engineers and others expert in proposal fields.

Award criteria will include:

- Merit of the ongoing research
- Nature of the existing laboratories and instrumentation
- Probable impact on research productivity and quality
- Urgency of need
- Design quality
- Architectural issues
- Financial and management arrangments.

PROGRAM DIFFERENCES

NSF provides support for instrumentation through

- science project research grants
- specialized research instrumentation programs (.e.g., Biological and Chemical Instrumentation),
- National Centers (e.g., Kitt Peak, Arecibo).

The funding for these activities totals $90.2 million in the NSF FY 1982 budget request.

The University Research Laboratories Improvement Program

- provided for equipment costing more than can be provided through research projects or the disciplinary instrumentation programs, but less expensive and specialized than that available through the national centers noted above, and
- makes possible the catch-up acquisition of newly available scientific instrumentation, and the replacement of outdated, obsolete, high maintenance research apparatus and associated facilities.

INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS

Question: Could you please describe NSF's involvement in the 17-member International Institute for Applied Systems (IIASA) Analysis?

Answer: The NSF has supported the membership and participation by the National Academy of Sciences in IIASA since the Institute was founded in 1972. Our awards to the NAS for this purpose have totaled approximately $16.5 million, of which $14.5 million has been for the U.S. dues. Dues support the annual operations of the institute. The remainder is used to administer U.S. participation through NAS.

The National Science Board has followed the development of IIASA and U.S. involvement in it from the Institute's earliest beginnings. The Board has periodically reviewed and approved requests from the NAS for continued support of its participation in the Institute. At the Board's request, several evaluations of the quality of the Institute's work have been carried out by the Foundation.

NSF staff are regularly invited to attend the IIASA Council meetings and use the opportunity as well to consult with IIASA staff on program progress. NSF observers attend meetings of the NAS Advisory Committee on IIASA and its Liaison Subcommittees for the various IIASA programs and research areas.

Question: What have been some of the major products of the Institute and do you consider these of high scientific and technical value?

Answer: A very recent major product of IIASA is the two-volume report entitled Energy in a Finite World which summarizes the findings of the Institute's seven-year investigation of ways to meet world energy needs for the next fifty years. The study emphasizes comprehensiveness and self-consistency on a global level. The New York Times, in a March 25, 1981 editorial, said "the study is probably the most ambitious effort yet to determine the world's long-term energy needs."

Another major accomplishment has been in the development of a new approach to environmental assessment and management known as the "adaptive" approach. It recognizes the inevitable and significant role that uncertainty plays in all environmental planning and management. The approach has influenced environmental planners both inside and outside the government in the United States, and in other countries.

The NSF has carried out several evaluations of IIASA and its products, through peer review of the scientific output and site visits at IIASA by scientific experts. The latest assessment, completed in October 1980, attested to the high quality of the professional staff and the scientific work carried out at IIASA.

Question: Your current budget plans call for withdrawal of the $2.5 million of U.S. support from the Institute.

Has any other member nation indicated that they intend to withdraw their financial support during FY 1982?

Answer: We have been informed that a few countries will likely reconsider their future participation in IIASA in the event the U.S. withdraws its support.

Question: What about the advanced notification procedures under Article IV Section 5 of the Charter -- won't we be violating this if we pull out in FY 1982?

Answer: We are aware of the cited provision of the IIASA Charter. The U.S. will meet its obligations under the charter. We have discussed the matter of FY 1982 support of the Institute with the Department of State, and NSF has asked the Department to exercise its authority under Title V of Public Law 95-426 to coordinate discussions with other agencies to determine their interest in contributing to U.S. support for IIASA in FY 1982 and thereafter. If a suitable arrangement can be worked out, NSF will consider paying a share of the U.S. membership costs in FY 1983 and beyond. If these discussions are unsuccessful, NSF will provide the necessary funds in FY 1982.

OCEAN MARGIN DRILLING

Question: You are now requesting $12 million for your Ocean Margin Drilling Program (OMD). This is a decrease of $4 million from the January request. What impact, if any, will this reduction have on the long term scheduling and costs of the project?

Answer: The direct cost of this deferral is about $1 million, the estimated increase in cost of items procured. Procurement of long lead time items was scheduled for late in FY 1982. If all goes well the procurement will now proceed early in the following year. Slippage in schedule of four months will occur, but a number of other key factors in addition to the reductions affect the schedule also, e.g., contractors meeting schedules, funding being provided on schedule, etc.

Question: When is the next major decision point--go or no-go decision scheduled and what criteria will be used in making that decision?

Answer: A series of events in the next 12 months will determine whether the program goes ahead in FY 1983. These are:

- September 1981, when NSF submits its budget to OMB.
- January, 1982, President's FY 1983 budget to Congress.
- April 1982, detailed science plan will be completed based on inputs from academia, industry and government.
- May, 1982, preliminary design of drilling systems completed.
- June, 1982, necessary information should be in place to decide on whether to proceed with the program.

Decision Criteria

- Acceptable management plan
- Satisfactory agreement between NSF and oil companies
- Capability of system assigned to meet scientific goals.
- Costs commensurate with scientific potential.

Question: Were industry matching funds available for the $4 million?

Answer: Yes. The understanding with industry provides for 50%-50% sharing of all program costs.

Question: Do you believe that this reduction and the action of the House Authorizing Committee will have any effect on the nature of this government/industry program?

Answer: We are, of course, concerned by the House Authorizing Committee's action as we were by its similar action last year. Strong support of other Committees in both the Senate and House, based on the program's major potential, allowed it to continue intact in FY 1981. We need similar support again for the coming fiscal year's program. The oil companies are very sensitive to Congressional deliberations on this program.

Question: Last year, this Committee was quite concerned that we periodically review the feasibility and costs of the OMD before making a final commitment.

Answer: Detailed estimates were provided to the Congress in December, 1980. Major parts of the program at this state of its development are aimed at determining its cost and feasibility. You will, of course, continue to be informed of significant steps in these areas.

SPACE TELESCOPE AND THE NSF ASTRONOMY PROGRAM

Question: As you know, NASA recently announced the creation of the Space Telescope Institute in conjunction with the expected FY 1985 launch of Space Telescope. Current estimates indicate that the Telescope will cost $700-750 million in FY 82 dollars.

What specific changes have you made in the Astronomy program in anticipation of the Space Telescope coming on line?

Answer: No specific changes have been made in the FY 1982 Program. But since NSF is the lead agency for ground-based astronomy, changes in program activities at the National Observatories and in the nature of grants can be expected as Space Telescope results provide targets for ground-based observations.

The NSF and NASA astronomy efforts are closely coordinated. NSF-supported centers and observers have participated in NASA projects through preparing experiments and providing data from ground-based observations. This cooperation is continuing in preparations for the space telescope.

ANTARCTIC PROGRAM

Question: In FY 80, you obligated $48.46 million for Antarctic operations support. In your FY 81 budget request, you asked for $51.6 million and your current FY 81 plan calls for $55.9 million. Your FY 82 request is for $62.6 million. One of the major reasons for such increasing costs have been rising fuel prices. How much have you budgeted for fuel costs in FY 1982?

Answer: The Antarctic Program budget includes $9.5 million for fuel procured for direct use in the program--this is aviation fuel and heating fuel. In addition indirect fuel use such as that by icebreakers, research ships, resupply ships and chartered aircraft amounts to about 5 million gallons or $6.7 million. Thus, the total fuel cost estimate is about $16.2 million.

Question: What per gallon price did you assume when developing your FY 82 budget--is this the same as assumed by DOD?

Answer: We assumed a per gallon cost of $1.34 per gallon for heating fuel, $1.28 for aviation fuel and $1.34 for indirect fuel. This represents a 10% increase over current prices (including DOD prices).

Question: Is there any reason why the Navy should not pay for the fuel cost incurred in running the Antarctic program?

Answer: Navy payment of fuel costs would require a change in administration policy which currently assigns NSF the responsibility for managing and budgeting the program.

Question: What major equipment purchase do you expect will have to be made to support the Antarctic program during the next few years?

Answer: The procurement of helicopters to replace the seven Navy helicopters that are now being used, but are of a class no longer produced, is an expensive equipment need that will become a high priority in the near future. In addition, procurement of a replacement station at the South Pole must begin in the near future.

Question: Do you have a MOU with the Navy defining the equipment items that will be bought by them and by you?

Answer: No. Current agreements with the Navy, in line with administration policy, make no provision for equipment procurement from Navy funds for the Antarctic program. All equipment for use in Antarctica is procured with NSF funds either by the Navy or the civilian contractor. All capital equipment procurements are approved by NSF.

WELDING RESEARCH

Question: In a November 14, 1980 news release you announced the establishment of a Center for Welding Research, the first of its kind in the country, in Columbus, Ohio as part of a National Science Foundation (NSF) program to advance technology in fields considered essential to this country's welfare.

In that announcement you noted that several private companies are contributing $30,000 each per year to support the effort to maintain the welding center and plans call for the NSF to phase out of the effort as industry increases its support during the initial 5 year period. The results will be a welding research program totally supported by industry.

What is the funding status of the Center and what are the future plans for it?

Answer: The Center for Welding Research at Ohio State University was established in September, 1980. It is co-funded by the NSF, through a five-year continuing grant, and by ten companies which are contributing $30,000 each. Four additional companies are currently considering joining the Center. The first year NSF award was for a total of $264.582 and a request from OSU for second-year funding is currently under review.

The primary criterion for deciding on each year's subsequent funding is evidence that industrial interest and support for the Center's research activities continues to grow.

EXTENSION FOR CREATIVITY

Question: This summer you announced an experimental program that would allow an NSF program officer to recommend the extension of certain research grants beyond the initial period for which the grant was awarded. The objective of this extension was to offer the most creative scientists, increased opportunity to attack adventurous "high risk" research questions.

Could you please describe how individuals are selected for this two-year extension?

How many grants have been so extended?

What are the potential payoffs of this program?

What are the expected costs of this program in FY 1981 and FY 1982?

Answer: A two-year extension for special creativity is a mechanism by which existing three-year NSF grants may be extended for principal investigators who have made especially creative research contributions. NSF program officers select such individuals and prepare a memorandum in which the specific creative accomplishments are identified. Additional peer review beyond that on which the initial grant was based is not required. The usual approval process within the Foundation is then followed.

Approximately 50 grants have been extended by this mechanism.

Potential payoffs of this approach are greater continuity of research support, opportunity for investigating high-risk research questions, and reduced administrative burden. Since a two-year extension results in a five-year grant on the basis of one proposal, it provides greater continuity of research support for especially creative scientists. A two-year extension provides an opportunity to investigate adventurous "high-risk" research questions, in the same general scientific area but not necessarily directly related to those pursued under the existing research grant. Since no additional proposal is prepared or reviewed, there is a reduced administrative burden on the researcher, on peer reviewers, and on the program staff at NSF.

The cost of approximately 50 extensions for one year is about $3 million. The annual budget level of an extension is normally at the average annual level of the three-year grant (excluding capital equipment) on which it is based.

SES BONUSES

Question: How much have you included in your budget request for SES bonuses during FY 1982?

Answer: The FY 1982 estimate provides $125,000 for SES bonuses. Actual payment will depend on the total number of SES employees, the percentage eligible for bonus and the total dollar amount of bonuses as determined by the rating and review process.

AUTHORIZATION LANGUAGE

Question: On May 8, 1980, then Director Richard Atkinson wrote to Congressman Brown concerning Section 15 of the Authorization Bill.
This provision would have required any Deferrals to be applied proportionally.

What would be the impact of this provision if it was currently in effect?

What is NSF's current position on provisions such as this?

Answer: Since the Administration has not proposed any FY 1981 deferrals for the National Science Foundation, Section 15 has no current impact.

However, the Foundation strongly opposes this provision for two reasons. The first is that NSF's ability to plan effectively and manage its resources is impaired by this provision. It has a negative effect upon our ability as an executive branch agency to administer programs and the resources intrusted to us. The Congress, through the Budget Control Act of 1974, has the opportunity to overturn the President's recommended deferrals if it feels that is necessary. Without that action, Section 15 ties the hands of the executive to manage Government spending deliberately by eliminating our ability to reduce spending in targeted rather than in a pro rata fashion.

Secondly, the precedent established by Section 15, if applied to all Federal departments and agencies, would eliminate all priority-setting and effective fiscal management by the President. This Congressional management by formula, in the judgment of the Foundation, would be most unfortunate.

COMPUTER SCIENCES

Question: Please provide the Committee with your reaction to the November 21, 1980 Snowbird Report.

Answer: The Foundation agrees with the substance of the Snowbird report. The conditions described in the report (a shortage of faculty, deterioration of university experimental research environments, shortage of Ph.D.s, increasing undergraduate enrollments) have been building for a number of years. Three responses to these conditions (and the problems they engender) were formulated and have been implemented within a new program in the Computer Science Section entitled Coordinated Experimental Research. The CER program consists of:

1. New Investigator grants.
2. Large awards to facilitate experimental research.
3. CSNet.

The New Investigator grants provide support to faculty beginning their research efforts in experimental computer science. The grants are designed to support a capital investment in equipment for faculty members and to enhance their research by providing funds to reduce their teaching and administration responsibilities. The intent of the grants is to reduce the flight of top quality experimental computer scientists to industry by enhancing their research environment.

The second component of the CER program consists of grants that provide support for the establishment and enhancement of experimental research facilities, needed technical and professional support personnel, and necessary maintenance of the facilities. They may provide support for large multi-investigator projects in experimental computer research of a scale not possible under the regular programs. The intent is to enhance the research environments at universities.

The CSNet project addresses directly a recommendation in the Snowbird report. The project is a multi-university effort aimed at developing and implementing a computer network that will allow nationwide access to a large number of computer science research facilities at a reasonable cost. This network will facilitate collaborative research and allow faculty the opportunity to use facilities not available on their campus.

CONFLICT OF INTEREST

Question: Please comment on the findings of the January 15, 1981 GAO report entitled "National Science Foundation Conflict of Interest Problems With Grants to Short-Term Employees."

Answer: The GAO recommended that the Director:

-- require that the Office of Audit and Oversight formally refer to the NSF General Counsel for prompt resolution all conflict of interest matters that it finds while monitoring the grant activity associated with scientists who are being considered for, are serving in, or have recently completed short term NSF appointments; and

-- take appropriate remedial or disciplinary action when people fail to report conflict of interest situations or otherwise violate prescribed standards of conduct.

The Foundation supports both recommendations. Regarding the first, the Director has asked the Director of the Office of Audit and Oversight to monitor all proposals, awards, and related activity involving NSF staff members, persons under consideration for NSF staff positions, or former staff members away from the NSF less than a year. The second is essentially a restatement of the Foundation's current policy.

As a result of the GAO investigation, the Director of the Foundation created a task group to examine the Foundation's existing policies and procedures related to conflict of interest and short-term employees.

CHANGES TO CARTER BASE

Question: Please prepare for the record a brief description of each of the changes, of over $1 million, made to the FY 1982 Carter budget and the expected programmatic impact of those changes.

Answer:

A detailed comparision of the National Science Foundation's FY 1982 budget requests as submitted by President's Carter and Reagan is provided by the tables below. A summary of the expected programmatic impacts is as follows:

Mathematical and Physical Sciences (MPS)

A decrease of $5.89 million, from an amount of $301.3 million requested under the Carter budget to $295.41 million under the Reagan budget, is applied to all MPS subactivities in a manner that maintains the planned relative balance among science disciplines, including the important emphasis on strengthening experimental computer sciences and the desired expansion of coherent support modes in the mathematical sciences.

- Mathematics research support is reduced by $.67 million by the budget amendment. A proposed expansion of the mathematical sciences postdoctoral fellowship program to include researchers in mid-career is postponed. The number of investigators supported is reduced slightly to maintain a planned increase in award size.

- Strengthening of the acadamic research capability in experimental computer science is continued. Project research and support for young investigators are reduced by $.54 million.

- There will be a strong effort in physics to provide instrumentation and equipment to those subfields in which support was curtailed as result of the FY 1981 rescissions. However, planned support for computers and data links for particle physics user groups, as well as for some other instrumentation, will be somewhat reduced, compared to the amount proposed under President Carter's budget. There will also be reductions in support for accelerator research and development, intermediate energy electron accelerators, and project research in atomic physics and theory. Altogether, the Physics program is reduced by $1.63 million as a result of the budget amendment.

- The Chemical Instrumentation program remains at its original FY 1982 planned level to accommodate, to the extent possible, major equipment needs in chemistry that are being deferred from FY 1981. The decrease of $1.32 million will be absorbed by project research support across all chemical subfields.

- In materials research, a decrease of $1.73 million is absorbed by the Materials Research Laboratories and, to a lesser extent, by a decrease in the number of scientific research projects supported.

Engineering

The request of $102.56 million for Engineering under President Reagan's budget is only $2.05 million below the amount of $104.61 million requested under President Carter's budget. Relatively minor reductions, ranging from $380,000 to $660,000, are distributed among the four program subactivities.

Biological, Behavioral, and Social Sciences (BBS)

The proposed amendment for BBS totals $47.01 million, from an amount of $218.99 million under the Carter budget to $171.98 million under the Reagan budget. The decrease will be accommodated, primarily, through reductions in the numbers of awards supported under each of the BBS program subactivities.

- A $1.63 million decrease in Physiology, Cellular and Molecular Biology is directed to research in Cellular and Physiological Biosciences (-$1.0 million) and Molecular and Genetic Biosciences (-$.63 million). Support for Biological Instrumentation will be maintained at the level proposed in the original FY 1982 budget request.

- Reductions in the Environmental Sciences total $.82 million and include: Ecology (-$1.0 million); Ecosystem Studies (-$.32 million); Systematic Biology (-$.3 million); and Biology Research Resources (-$.1 million).

- Decreases in the Behavioral and Neural Sciences total $14.44 million, including research in Cognitive and Behavioral Sciences (-$10.75 million); Anthropology (-$3.25 million); and Neuroscience (-$.44 million).

- A $30.0 million decrease in support of the Social and Economic Sciences affects all program elements: Economics ($-12.45 million); Social Measurement and Analysis (-$10.20 million); and Political and Policy Sciences (-$7.35 million).

- Information Science and Technology is reduced by $.12 million, from $6.3 million to $6.18 million. The full decrease is taken from the Economic and Social Impact program element. The Information Science and Information Technology program elements remain unchanged from the original FY 1982 request.

Astronomical, Atmospheric, Earth, and Ocean Sciences (AAEO)

The budget request of $253.15 million for AAEO under the Reagan budget is $14.85 million below the amount of $268 million for this pro-

gram activity in the Carter budget. Except where noted below, the existing priorities among the program elements within the program
get is $14.85 million below the amount of $268 million for this pro-
get is $14.85 million below the amount of $268 million for this pro-
subactivities have been maintained.

- In the Astronomical Sciences subactivity, $11.82 million amendment eliminates $9.8 million for design and initial construction of a 25-meter diameter, millimeter wavelength telescope, planned for construction on Mauna Kea, Hawaii. In addition, reductions of $1.39 million in the request for support of the national astronomy research centers and of $.63 million in astronomy project support are proposed.

- In the Atmospheric Sciences, the amendment reduces the budget request by $1.17 million, from $74.4 million to $73.23 million. This results in reductions of $.88 million for support of the National Scientific Balloon Facility and $.29 million for atmospheric sciences research project support. Strong support for the Atmospheric Sciences will, nevertheless, be continued.
- In the Earth Sciences, the amendment reduces the request for research project support by $.48 million.
- In the Ocean Sciences, the amendment reduces the budget request by $1.28 million, from $81.0 million to $79.72 million. This results in reductions of $.78 million in the request for research project support and $.5 million for Oceanographic Facilities and Support. The decreases will be accommodated by reductions in the numbers of awards supported.
- In the Arctic Research Program, a reduction of $100,000 will leave the program at essentially the level originally planned.

Ocean Drilling Programs (ODP)

The revised budget request of $26.0 million for the Ocean Drilling Programs, million is $4.0 million below the original request for FY 1982. This will decrease Federal funding of the Ocean Margin Drilling Project by $4.0 million, from an original request of $16 million to a revised request of $12 million, and will result in deferral of longlead procurement from FY 1982 to FY 1983.

U.S. Antarctic Program (USAP)

The amount of $70.1 million requested for the U.S. Antarctic Program is the same as was requested under the Carter budget.

Scientific, Technological, and International Affairs (STIA)

The revised budget of $37.7 million for the Scientific, Technological, and International Affairs program activity is $42.3 million below the amount of $80.0 million requested for this activity under President Carter's budget for FY 1982.

- Industrial Science and Technological Innovation is reduced by $28.6 million, from $45.8 million to $17.2 million. The amendment reduces the Industry/ University Cooperative Research Projects program by $17.3 million, from $26.8 million to $9.5 million; Small Business Innovation by $9.5 million, from $14.5 million to $5 million; and University Innovation Centers from $1.8 million to zero.

- The request for the Intergovernmental and Public Service Science and Technology activity is reduced by $7.7 million, from $9.4 million under the Carter budget to a revised amount of $1.7 million. This results in the elimination of the Intergovernmental Programs, and Appropriate Technology program, and the start of a phase-out of the Science for Citizens program.

- The request for the International Cooperative Scientific Activities program subactivity is decreased from $16.6 million to $10.6 million, or by $6 million. The reduction eliminates from this activity all funding for U.S participation in the International Institute for Applied Systems Analysis (IIASA) and the International Council of Scientific Unions (ICSU) and holds support for scientific cooperation with the U.S.S.R. at the minimal maintenance level. The reduction terminates support for IIASA and assumes that support for U.S. participation in ICSU will be funded under other relevant NSF program activities.

- Support for the Policy Research and Analysis and Science Resources Studies programs is budgeted at the same levels as in the initial FY 1982 budget request.

Cross-Directorate Programs (CDP)

The budget request for the Cross-Directorate Programs activity is reduced from $97.9 million in the Carter budget to zero in the Reagan budget. The reduction results in termination of all ongoing CDP programs and cancellation of programs that were previously proposed for initiation in FY 1982.

- Deletion of the request of $80.7 million for the Research Facilities and Instrumentation Programs subactivity terminates support for the Two-Year and Four-Year College Research Instrumentation program (-$3.0 million) and the Regional Instrumentation Facilities program (-$2.7 million) and cancels the University Research Laboratories and Instrumentation program that had been planned for initiation in FY 1982 at a level of $75 million. These programs emphasized support for the acquisition of research equipment and instrumentation by by colleges and universities. Support for research equipment will continue to be provided through the regular research support activities of the Foundation.

- Elimination of the request of $13 million for the Research Initiation and Improvement Programs subactivity terminates or cancels programs that were established or designed to initiate and improve research activities for institutions and individual scientists and engineers. More specifically, the deleted funds had been proposed for support of: (a) Two proposed new programs focusing on strengthening the participation of women scientists and engineers in research; that is, Research Opportunity Grants (-$5.0 million) and Visiting Professorships for Women (-$1 million). (b) Two programs designed to enhance the research participation of minority scientists and engineers and predominantly minority institutions; that is, Minority Research Initiation (-$1.5 million) and Research Improvement in Minority Institutions (-$1.5) million). (c) Termination of the Experimental Program to Stimulate Competitive Research (-$3.0 million), a program which is aimed at stimulating improved environments for research in selected States (-$3.0 million). (d) Support for promising Postdoctoral Fellows (-$1.0 million).

- Deletion of funding for the Honorary Awards subactivity will eliminate support for the annual Alan T. Waterman Award (-$.15 million) under the Cross-Directorate Programs activity; however, the award will be continued with funding from an appropriate NSF budget activity.
- $4.05 million requested for NSF Planning and Evaluation is also eliminated, but activities essential to plan and evaluate the effectiveness of Foundation programs will be continued, with funding as appropriate from relevant program areas.

Science and Engineering Education (SEE)

The budget request for Science and Engineering Education is reduced by $102 million, from a level $111.9 million under President Carter's budget to a total of $9.9 million under President Reagan's budget. Funding is terminated for all SEE activities with the exception of $9.9 million required to fund commitments made in prior years to Graduate Fellows ($8.1 million) and Minority Gradate Fellows ($1.8 million).

The following tables provide a comparison of the Foundation's budget requests for FY 1982 under the budgets of President Carter and President Reagan:

INFORMATION BURDEN ON THE PUBLIC

Question: On January 13, 1981, the OMB issued its Information Collection Budget for FY 81. The budget contains budget targets for 28 departments and agencies that imposed a paperwork burden of 1,276,000,000 hours on the American public in FY 1980. If every man, woman and child in Salt Lake City worked 20 hours a day, 365 days a year, they would not be able to complete this paperwork requirement. As part of that budget, OMB established allowances for each of the departments and agencies. These allowances in aggregate would result in a decrease of 56 million hours from the levels requested for the agencies for FY 1981 and decrease the total paperwork burden by 48 million hours from the FY 1980 total.

Your Information Collection request for FY 81 was 1,092,000 hours, this was the same as your OMB allowance.

What efforts are you undertaking to assure that you will remain within this allowance?

What activities is the Foundation pursuing to reduce the amount of paperwork required in FY 82 and what is your most current estimate of that paperwork burden?

Answer: Of the 1,092,000 hours allocated by OMB, 873,000 hours or 80% are for proposal review by members of the scientific community, a voluntary intellectual effort that is part and parcel of grant processing. The remaining 20% are predominantly for technical reports, fellowship and other applications, and surveys required by the NSF Act or other Congressional mandate.

There are no plans for NSF to undertake new surveys in FY 1982, but since routine surveys are usually done every other year, there will be some fluctuations in specific categories. However, as determined by OMB, the preparation of (unsolicited) proposals for research (27,000 per year) will have to be added to the Information Collection Budget in FY 1982, causing an increase of 3,240,000 hours in the budget. The Foundation believes the preparation of unsolicited proposals is not a paperwork burden on the public and this should not be included in this budget.

Significant reductions in paperwork were accomplished in 1976-1977 by, e.g., limiting proposal narratives to 15 pages, introducing the Master Grant concept, reducing reporting requirements on grantees, etc. Other actions in recent years, e.g., the elimination of some forms and the combination of others, have reduced the number of surveys and reports from 40 to 29.

PROGRAMMATIC INCREASES

Question: Please provide a description of each program or activity that is slated to be increased by $1 million or more over its adjusted FY 1981 base. Also provide a rationale for the increase.

Answer: Seven of the eleven NSF activities are increased by $1,000,000 or more from the FY 1981 base:

	Increase Over the FY 1981 Base
Mathematical and Physical Sciences..............	$47,190,000

The goal of the Mathematical and Physical Sciences (MPS) activity is to fields provide the underlying knowledge for the future technological developments upon which our economic and social well-being so intimately depend. They also form much of the intellectual underpinning for the biological, environmental, and behavioral sciences, as well as provide many of the research instruments and techniques necessary to progress in these fields. More specifically, the Mathematical and Physical Sciences activity strengthens the Nation's research capability by:

- Creating new mathematical knowledge and applying that knowledge to achieve a better understanding of physical and social phenomena.
- Developing an understanding of the science that underlies computer technology and formulating the principles of design of computer hardware and software systems.
- Advancing knowledge of the fundamental physical laws governing matter and energy with the ultimate goal of achieving a unified, self-consistent explanation of all physical phenomena.

- Stimulating the development of modern chemistry on a broad front, including chemical synthesis, analysis, dynamics, structure, and theory.
- Developing an improved understanding of the fundamental principles, phenomena, and concepts that govern the physical, chemical, and mechanical properties of materials.

Rationale for FY 1982 Increase:

- Provide real growth for scientific research projects in Mathematics, Chemistry and Materials Research by holding the number of investigators to the 1981 level but increasing funding.
- Increase funding for Special Equipment Programs in Computer Research, Chemistry and Materials Research by 61.7 percent.
- Increase support for instrumentation, operations and equipment at university laboratories by 22.3 percent.
- Increase support for national user facilities by 19.2 percent.

Engineering.................................... $18,740,000

The goal of the Foundation's newly formed Engineering activity is to strengthen engineering research and, as appropriate, to focus some of that research in areas which are relevant to national problems. This is accomplished by supporting research across the entire range of engineering disciplines and by identifying, and supporting special areas of engineering research where results are expected to have applications that are timely and topical.

The specific objectives of the Engineering activity are to:

- Advance fundamental knowledge of engineering principles that will be applied to the analysis and design of a large variety of manmade devices, systems, and processes;
- Strengthen the academic engineering research base in order to address the need for more basic research underlying industrial technology;
- Create an improved research environment which will encourage larger numbers of engineers to seek graduate education and careers as well as pursue research; and
- Stimulate the application of engineering knowledge to contribute to the solution of significant problems of national interest.

Rationale for FY 1982 Increase:

- Maintain continued momentum in all four major program areas; Electrical, Computer and Systems Engineering, 25.6% increase; Chemical and Processing Engineering, 24.2%

increase; Civil and Environmental Engineering, 16.0% increase, and; Mechanical Engineering and Applied Mechanics, 26.6% increase.

Astronomical, Atmospheric Earth and Ocean Sciences $25,140,000

The Astronomical, Atmospheric, Earth, and Ocean Sciences Activity supports research that increases our knowledge of the natural environment on earth and in space, and of various effects of human activity that interact with this environment. The overall objectives of the various elements comprising the activity are as follows:

- Increase understanding of the physical nature of the universe;
- Advance knowledge of the behavior of the earth's atmosphere;
- Provide further insights into the physical and chemical makeup of the earth and its geologic history;
- Improve knowledge of the composition of the world's oceans, their dynamic properties, the seafloor underlying them, and the living creatures they nurture;
- Advance knowledge of natural phenomena and processes in the Arctic.

Rationale for FY 1982 Increase:

- Increased operating and maintenance costs of the National Research Centers.
- Additional funding in Atmospheric Sciences for climate modeling, assessment of the impact of climate change and solar variability studies. Continued support of weather modification projects and initial support of an Alpine Experiment field program.
- Increased funding for National Center for Atmospheric Research will allow continuation of the present level of effort in critical research areas.
- Increases in Earth Sciences will allow greater emphasis on research on the U.S. continental crust, isotope geochemistry of the earth's mantle, studies of the origin and evolution of ore deposits and numerical modeling of natural magnetic systems. Continued support for seismic reflection profiling, research on earthquake mechanics and plate motions and geochemical instrumentation is included.
- Ocean science funding will maintain current programs as well as continued emphasis on open-ocean dynamics and studies of currents using satellite imagery.
- Increase in Oceanographic Facilities and Support will help provide adequate logistics support for ocean science research.

- Funding of the Arctic Research Program will provide continued support for biological research in the Bering Sea Shelf, geological and geophysical research in Alaska, Greenland and Svalbard.

Ocean Drilling Programs........................ $4,000,000

The Ocean Drilling Programs (ODP) activity supports a unique worldwide effort to explore the earth's crust beneath the oceans. It is an interdisciplinary science program aided by deep-ocean drilling and coring of rocks and sediments aimed at understanding the detailed composition and behavior of the submerged 75 percent of the earth's surface that is of ever increasing importance to mankind.

The programs provide for a logical progression in scientific investigation from the first reconnaissance of the global ocean floor to specific problems in the plate tectonics theory of our planet.

The major thrusts are:

- Refinement of the plate tectonics theory; i.e., the understanding of a dynamic earth with drifting continents and changing ocean basins.
- Detailed studies of the history of the earth's evolving climates and life forms in relation to changes in oceans and atmosphere.
- Establishment of a geological framework of the formation and distribution of natural resources in the world's ocean floor.

Rationale for FY 1982 Increase:

- Increases are necessary to cover increased costs for fuel, personnel, supplies and the drilling subcontract in the Deep Sea Drilling Project.
- Increase in the Ocean Margin Drilling Program will be used for the initial phase design and for science planning preliminary to project approval.

U.S. Antarctic Program......................... $5,400,000

The U.S. Antarctic Program supports national goals to: maintain the Antarctic Treaty, insure that the continent will continue to be used for peaceful purposes only, foster cooperative research to contribute to the solution of regional and worldwide problems, protect the environment, and insure equitable and wise use of living and nonliving resources.

The U.S. scientific research program continues to be the principal expression of national interest and policy in Antarctica. The goal of the U.S. Antarctic Research Program is the scientific investigation of the Antarctic continent and the surrounding oceans. Objectives are to develop an understanding of the role played by the antarctic ice sheets and the antarctic physical, biological, geological, meterorological, atmospheric, chemical, and oceanographic processes.

The Antarctic area is of further interest to the United States because it:

- Has a major influence on world weather and climate;
- Has the world's richest marine protein resource potential;
- Has other resources of unique scientific and practical interest; and
- Provides an excellent environment for international cooperation.

Rationale for FY 1982 Increase:

- Increases are required for operations support, equipment maintenance and procurement deferred from FY 1980 and FY 1981 because of fuel cost increases.
- Support of research programs will be only at the FY 1979 and FY 1980 levels.

Scientific, Technological, and International Affairs $1,750,000

The goals of the Scientific, Technological and International Affairs (STIA) activity are to (1) link the producers of research with the users of research, (2) support research on the interactions between science, technology and public policy, and (3) facilitate the international exchange of scientific and technical information.

To achieve these goals, STIA supports cooperative work between universities and industry, and between scientists and engineers and the general public. Its international science programs support joint efforts with advanced and developing countries. STIA also supports research, analysis, and reporting on the S&T enterprise and its impact on society.

The overall objectives of the elements comprising this activity are to:

- Provide incentives for increasing cooperation between universities and industry to provide the knowledge base for new and improved products and services.
- Draw upon scientific and technological research capabilities of the Nation's small businesses.
- Increase joint research with advanced and developing countries and participation in international scientific meetings.
- Conduct policy research and analysis, assess alternative S&T policy options, and synthesize and report available data and information on issues of concern to federal decisionmakers.
- Produce statistics and models for periodic, comprehensive national overviews of the funding of R&D and of the supply and utilization of S&T personnel.

Rationale for FY 1982 Increase:

- Increased support for Industrial Science and Technological Innovation will help meet demonstrated demand for strengthened ties between the university and industry research communities.
- Small business innovation projects will continue at the FY 1981 level.
- Ethics and Values in Science and Technology will be continued at a slightly lower level than FY 1981.
- Cooperative projects with industrial countries will be expanded.
- Policy research in international economic policy and technology assessment will be extended.
- Collection and analysis of statistical information concerning scientific and technical personnel will be continued and new science and technology output indicators developed.

Program Development and Management..................	$2,501,190

The goal of the Program Development and Management Activity is to achieve the most effective management of the National Science Foundation. Major objectives of this activity are to:

- Operate a system of impartial evaluation and selection of proposals to ensure support of research and science education projects on the basis of scientific merit;
- Provide a sufficient staff of well-trained and highly qualified scientists, educators, administrators, and support personnel;
- Supply support services to provide staff an environment conducive to effective program and management operations;
- Ensure proper accountability and oversight of Federal funds through effective management policies, procedures, and techniques;
- Maintain an in-house capability for high quality analysis of science and technology policy;
- Identify issues and develop long-range plans for effective and responsive NSF programs; and
- Obtain oversight by outside experts and in-house staff to ensure vitality and responsiveness of NSF programs.

Rationale for FY 1982 Increase:

- Increases reflect anticipated costs of personnel at salary rates implemented in October 1980, increased space rental costs and partial funding of inflationary price increases for all goods and services required by the Foundation.

QUESTIONS SUBMITTED BY SENATOR HUDDLESTON

GEOGRAPHICAL DISTRIBUTION

Question: NSF has been criticized in the past for awarding a large percentage of its grants and fellowships to a few large institutions concentrated in several geographical areas to the exclusion of institutions in other parts of the country. Have you analyzed the geographical distribution of your grants in the past several years to determine the spread?

Answer: The Foundation reviews the geographic distribution of its awards annually. State by state tabulations of awards are contained in Appendix A of the NSF Budget Request, and surveys of Federal R&D support by performer and state are conducted. Special studies are made on occasion, and a recent analysis of the geographic distribution of NSF funding of awards shows the following:

1. Trend data on NSF obligations reflect stability of funding during FY 1975-79. Twelve states ranked among the top 10 recipients of NSF funds in that period. Factors related to success included the presence of distinguished research universities and major NSF research facilities within the state.

2. If funds for major science facilities and operations which are geographically determined (e.g., national laboratories and ship operations) are excluded from total NSF obligations, stability of ranking is maintained. However, the absolute ranking of three states having large research facilities drops significantly.

3. NSF obligation and proposal data for FY 1979 show that the number of proposals submitted to NSF by institutions in the state and the aggregate dollar amounts requested were important factors in NSF geographical funding patterns. The three top ranking states were first, second and third in both the number of proposals submitted and the aggregated dollars requested. When obligations are used as a measure of competitive success, 12 states had higher "success ratios" than the three highest ranking states.

4. There is a good correspondence between NSF obligations for FY 1979 and population, number of Ph.D.s awarded in science and engineering, graduate student enrollment in science and engineering, and science and engineering employment. This indicates a lack of an undue concentration of NSF funds. Six of the top 10 states in NSF funding were also in the top 10 for the other variables; three states in the top 10 receiving NSF funds are exceptions because of the presence of large NSF-funded national research facilities.

Question: Have you made any efforts to insure a broader distribution?

Answer: In January 1978, the Foundation initiated the Experimental Program to Stimulate Competitive Research with the goal of improving the quality of science, and hence the ability of scientists in eligible states, to compete more successfully for Federal research funds through regular channels. Five states received awards from NSF and are contributing their own funds to the projects proposed. As a result of the severe economic situation, the Foundation's FY 1982 Budget Request dropped plans to make additional new starts in the program. The Foundation does, however, expect to meet its ongoing commitments to the five projects already supported.

In the NSF fellowship program, efforts are made to ensure broad distribution consistent with applicant merit. Specifically, in cases of substantial quality, geographic distribution based on permanent place of residence is used as a tie-breaking criterion. The distribution of fellowships across institutions is the result, not of a decision by the Foundation, but follows from individual selections made by the awardees. Irrespective of place of permanent residence, the NSF Fellow is fully responsible for selecting the institution to be attended for graduate work.

ELIMINATING SUPPORT FOR SMALL INSTITUTIONS

Question: By eliminating science and engineering education, aren't you eliminating support for a number of smaller and less well-known institutions while protecting those programs that tend to assist the major universities?

Answer: By eliminating Science and Engineering Education approximately 250 schools that received support in FY 1980 only from the Directorate for Science Education may not receive NSF support in FY 1982. This would mean about 220, four-year schools and about 30, two-year schools would be affected.

SERI PROGRAM

Question: Please provide a list of those institutions which received grants under the Science Education Resources Improvement program in FY 1980 and FY 1981. Also, please specify the amount received by each institution.

Answer: A listing of institutions which received grants through programs in the Science Education Resources Improvement Division in FY 1980 is attached. No listing is available for FY 1981 as few awards have yet been made in this fiscal year. Awards for the Science Education Resources Improvement programs are scheduled for July, August and September.

DIRECTORATE FOR SCIENCE AND ENGINEERING EDUCATION
DIVISION OF SCIENCE EDUCATION RESOURCES IMPROVEMENT
AWARDS BY STATE AND INSTITUTION
FY 1980

INSTITUTION NAME	AWARD AMOUNT
AUBURN UNIVERSITY	$11,967
LAWSON ST COMM COLLEGE	$24,718
LURLEEN B WALLACE ST JR C	$25,000
SAMFORD UNIV	$20,000
UNIVERSITY OF ALABAMA	$262,888
TOTAL AL	$344,573
ARKANSAS COLLEGE	$18,660
U-ARKANSAS FAYETTEVILLE	$39,211
U-ARKANSAS LITTLE ROCK	$7,500
TOTAL AR	$65,371
ARIZONA STATE UNIVERSITY	$15,030
NORTHERN ARIZ UNIV	$24,150
PIMA COMMUNITY COLLEGE	$23,961
SCOTTSDALE CMTY COLLEGE	$209,786
UNIVERSITY OF ARIZONA	$285,825
YAVAPAI COLLEGE	$168,354
TOTAL AZ	$727,106
BAKERSFIELD COLLEGE	$117,801
CAL ST COL AT BAKERSFIELD	$9,845
CALIF ST POLY UNIV POMONA	$4,400
CALIF ST UNIV FULLERTON	$36,345
CALIF ST UNIV LONG BEACH	$29,979
CALIFORNIA INST OF TECH	$20,000
EVERGREEN VALLEY COLLEGE	$174,394
GROSSMONT COLLEGE	$225,993
HUMBOLDT STATE UNIVERSITY	$20,000
LOS ANGELES PIERCE COL	$246,539
LOS ANGELES VALLEY COL	$19,820
LOYOLA MARYMOUNT U	$236,453
MILLS COL	$24,331
MT ST MARYS COL	$24,648
SADDLEBACK COMM COLLEGE	$16,771
SAN DIEGO ST UNIVERSITY	$44,703
UNIV OF CAL SANTA BARBARA	$19,319
UNIV OF CALIF-BERKELEY	$158,468
UNIV OF CALIF-DAVIS	$23,465
UNIV OF CALIF-LOS ANGELES	$235,039
UNIV OF CALIF-RIVERSIDE	$18,761
UNIV OF SOUTHERN CALIF	$14,354
TOTAL CA	$1,721,428

INSTITUTION NAME	AWARD AMOUNT
COLORADO STATE UNIVERSITY	$331,352
U COLO AT COLO SPRINGS	$30,182
UNIV COLORADO AT BOULDER	$52,291
UNIVERSITY OF DENVER	$7,278
TOTAL CO	$421,103
AREA COOP EDUC SERVICES	$27,906
EASTERN CONN STATE COL	$20,000
UNIVERSITY OF HARTFORD	$16,095
UNIVERSITY OF NEW HAVEN	$6,000
TOTAL CT	$70,001
AMER SOC FOR ENG ED	$64,949
AMERICAN UNIVERSITY	$10,526
CATHOLIC UNIV OF AMERICA	$8,817
NAT ACAD OF SCIENCES	$50,000
TOTAL DC	$134,292
UNIVERSITY OF DELAWARE	$70,812
TOTAL DE	$70,812
BETHUNE-COOKMAN COL	$11,500
ECKERD COLLEGE	$13,350
FLORIDA INST OF TECH	$11,425
STETSON UNIV	$16,085
UNIV OF SOUTH FLORIDA	$267,723
UNIVERSITY OF FLORIDA	$48,521
TOTAL FL	$368,604
ALBANY STATE COL	$24,068
ATLANTA UNIV	$18,960
DEKALB COMMUNITY COLLEGE	$243,660
EMORY UNIVERSITY	$38,131
GEORGIA INST OF TECH	$207,313
GEORGIA SOUTHERN COLLEGE	$14,745
MERCER UNIV	$15,325
MORRIS BROWN COL	$23,670
SAVANNAH STATE COL	$23,023
TOTAL GA	$608,895

INSTITUTION NAME	AWARD AMOUNT
HAWAII LOA COLLEGE	$114,722
UNIV OF HAWAII-MANOA	$88,364
TOTAL HI	
	$203,086
AREA SIX COMMUNITY COL	$10,100
CLARKE COL	$206,676
GRINNELL COL	$28,246
IOWA ST U OF SCIENCE&TECH	$33,390
LUTHER COL	$13,270
UNIVERSITY OF IOWA	$63,720
TOTAL IA	
	$355,402
BRADLEY UNIVERSITY	$11,000
CHICAGO STATE UNIVERSITY	$33,824
DEPAUL UNIV	$6,201
ILLINOIS INST OF TECH	$19,100
ILLINOIS STATE UNIV	$29,894
ILLINOIS WESLEYAN UNIV	$93,140
JOHN A LOGAN COLLEGE	$8,208
KNOX COL	
LOYOLA UNIV OF CHICAGO	$18,925
SOUTHERN ILL U-CARBONDALE	$57,076
SOUTHN ILL U-EDWARDSVILLE	$12,618
UNIV OF ILLINOIS-URBANA	$24,779
TOTAL IL	
	$314,765
BALL STATE UNIV	$47,118
BUTLER UNIV	$20,000
IND U-PURDUE U-INDNPLS	$7,794
INDIANA UNIV-BLOOMINGTON	$46,268
INDIANA UNIV, KOKOMO	$85,926
PURDUE UNIVERSITY	$51,142
UNIVERSITY OF NOTRE DAME	$24,448
VALPARAISO UNIVERSITY	$4,200
TOTAL IN	
	$286,896
BENEDICTINE COLLEGE	$19,618
FORT HAYES STATE UNIV	$16,009
JOHNSON COUNTY CMTY COL	$22,427
KANSAS NEWMAN COLLEGE	$7,930
KANSAS STATE UNIVERSITY	$332,990
MCPHERSON COL	$111,083

INSTITUTION NAME	AWARD AMOUNT
ST MARY COL	$249,941
WICHITA STATE UNIVERSITY	$252,750
TOTAL KS	$1,012,748
EASTERN KENTUCKY UNIV	$22,517
KENTUCKY STATE UNIVERSITY	$133,997
MURRAY STATE UNIV	$292,539
UNIV OF KENTUCKY	$287,505
WESTERN KENTUCKY UNIV	$284,737
TOTAL KY	$1,021,295
LA ST UNIV BATON ROUGE	$34,324
UNIV OF NEW ORLEANS	$23,792
XAVIER U OF LOUISIANA	$64,500
TOTAL LA	$122,616
CLARK UNIVERSITY	$23,290
COL OF OUR LADY OF ELMS	$59,987
CURRY COLLEGE	$24,942
MT HOLYOKE COL	$18,729
SMITH COLLEGE	$25,649
SPRINGFIELD TECH COMM COL	$15,040
UNIV MASS BOSTON CAMPUS	$20,000
UNIV-MASS AMHERST CAMPUS	$60,046
WESTERN NEW ENGLAND COL	$3,775
WHEATON COL	$13,502
WILLIAMS COL	$22,039
WORCESTER POLYTECH INST	$7,635
TOTAL MA	$294,634
GOUCHER COLLEGE	
UNIV OF MD COLLEGE PARK	$3,510
TOTAL MD	$3,510
BATES COL	$11,872
BOWDOIN COL	$31,061
MAINE MARITIME ACADEMY	$3,997
UNIV OF MAINE ORONO	$220,217
TOTAL ME	$267,147

INSTITUTION NAME	AWARD AMOUNT
ALBION COL	$3,400
EASTERN MICHIGAN UNIV	$196,913
HOPE COL	$7,931
MERCY COL OF DETROIT	$249,988
MICH TECHNOLOGICAL UNIV	$61,831
MICHIGAN STATE UNIVERSITY	$63,206
NORTHERN MICHIGAN UNIV	$23,670
UNIV OF MICHIGAN	$10,005
UNIVERSITY OF MICHIGAN	$27,037
WAYNE STATE UNIV	$65,655
WESTERN MICH UNIV	$72,516
TOTAL MI	$782,152
COL OF ST CATHERINE	$22,250
COL OF ST TERESA	$234,446
HAMLINE UNIV	$8,175
MACALESTER COL	$25,000
ST MARYS COL	$8,000
ST OLAF COL	$22,625
UNIV OF MINNESOTA	$50,716
TOTAL MN	$371,212
ST LOUIS UNIVERSITY	$23,388
UNIV OF MISSOURI COLUMBIA	$42,718
UNIV OF MISSOURI ROLLA	$23,652
UNIV OF MISSOURI ST LOUIS	$9,385
WASHINGTON UNIVERSITY	$38,117
TOTAL MO	$137,260
JACKSON STATE UNIVERSITY	$36,915
MISSISSIPPI STATE UNIV	$8,361
UNIVERSITY OF MISSISSIPPI	$11,222
TOTAL MS	$56,498
MONTANA COL MINERAL SCI	$6,460
MONTANA STATE UNIVERSITY	$20,000
UNIVERSITY OF MONTANA	$11,923
TOTAL MT	$38,383
BARBER-SCOTIA COL	$47,943

INSTITUTION NAME	AWARD AMOUNT
BENNETT COL	$20,466
DUKE UNIV	$24,924
EAST CAROLINA UNIV	$27,212
LIVINGSTONE COL	$8,649
N C AGRIC & TECH ST UNIV	$261,180
N C STATE UNIV AT RALEIGH	$64,974
NO CAROLINA CENTRAL UNIV	$8,117
ST ANDREWS PRESBY COL	$112,762
UNIV OF N C AT CHARLOTTE	$36,093
WAKE FOREST UNIV	$3,900
WESTERN CAROLINA UNIV	$260,947
WESTERN PIEDMONT COMM COL	$25,000
TOTAL NC	$902,167
NEBRASKA WESLEYAN UNIV	$3,600
UNIV OF NEBRASKA-LINCOLN	$92,186
UNIV OF NEBRASKA-OMAHA	$24,140
TOTAL NE	$119,926
DARTMOUTH COL	$120,000
UNIV OF N H DURHAM	$30,357
TOTAL NH	$150,357
ATLANTIC COMM COLLEGE	$87,743
BLOOMFIELD COL	$20,859
NEW JERSEY INST OF TECH	$24,024
RIDER COL	$9,139
RUTGERS UNIVERSITY	$20,000
STEVENS INST OF TECH	$42,140
TRENTON STATE COL	$269,903
TOTAL NJ	$473,808
NEW MEXICO STATE UNIV	$244,750
TOTAL NM	$244,750
UNIV OF NEVADA LAS VEGAS	$20,000
UNIVERSITY OF NEVADA-RENO	$9,927
TOTAL NV	$29,927

INSTITUTION NAME	AWARD AMOUNT
BARD COL	$11,180
CAYUGA COUNTY COMM COLL	$24,300
CLARKSON COL OF TECH	$19,809
COL OF MOUNT ST VINCENT	$5,795
COLGATE UNIV	$10,148
COOPER UNION	$33,506
CORNELL UNIV	$26,183
CUNY BORO OF MAN COMM COL	$40,297
CUNY CITY COL	$67,263
CUNY HUNTER COL	$29,986
CUNY JOHN JAY C CRIM JUST	$10,050
CUNY QUEENS COL	$29,188
ITHACA COL	$19,612
N Y STATE HISTORICAL ASSN	$21,148
NEW YORK CITY TECH COL	$173,660
NEW YORK UNIVERSITY	$13,940
POLYTECHNIC INST OF N Y	$6,100
RENSSELAER POLYTECH INST	$70,000
ROCHESTER INST OF TECH	$44,480
ST JOHNS UNIV	$7,656
SUNY A&T COL ALFRED	$14,696
SUNY C ENV SCI & FORESTRY	$269,840
SUNY COL BUFFALO	$5,062
SUNY COL CORTLAND	$83,623
SUNY COL FREDONIA	$6,878
SUNY COL GENESEO	$20,691
SUNY COL NEW PALTZ	$8,300
SUNY COL OSWEGO	$19,900
SUNY COL POTSDAM	$11,550
SUNY COLLEGE AT ONEONTA	$20,000
SUNY ST U ALBANY	$14,000
SUNY ST U BINGHAMTON	$31,708
SUNY ST U BUFFALO	$25,000
SUNY ST UNIV STONY BROOK	$20,000
SYRACUSE UNIV	$13,963
UNION COL	$7,556
UNIV OF ROCHESTER	$26,075
VASSAR COL	$6,256
TOTAL NY	$1,275,099
BOWLING GREEN STATE UNIV	$198,097
CASE WESTERN RESERVE UNIV	$20,000
COL OF WOOSTER	$20,000
HEIDELBERG COL	$248,100
KENT STATE UNIV	$39,794
MIAMI UNIV CENTRAL OFFICE	$33,482
NOTRE DAME COL OF OHIO	$20,000
OBERLIN COL	$24,611
OHIO STATE UNIV	$19,995

INSTITUTION NAME	AWARD AMOUNT
OHIO UNIV	$29,981
OHIO WESLEYAN UNIV	$14,060
UNIV OF AKRON MAIN CAMPUS	$73,402
UNIV OF TOLEDO	$3,060
WILMINGTON COL	$21,700
WRIGHT STATE UNIV	$24,975
TOTAL OH	$791,257
CAMERON UNIVERSITY	$21,947
OKLAHOMA STATE UNIV	$23,085
UNIV OF TULSA	$38,066
UNIV OKLA NORMAN CAMPUS	$64,497
TOTAL OK	$147,595
COLUMBIA EDUCATION CENTER	$28,500
MATH LEARNING CENTER	$49,986
OREGON COL OF EDUCATION	$249,943
OREGON STATE UNIV	$3,385
PORTLAND STATE UNIVERSITY	$15,854
UNIV OF PORTLAND	$10,684
TOTAL OR	$358,352
ALBRIGHT COL	$12,881
BEAVER COL	$24,018
BRYN MAWR COL	$10,900
DREXEL UNIVERSITY	$20,000
EAST STROUDSBRG STATE COL	$18,787
HAVERFORD COL	$250,000
KEYSTONE JR COL	$27,603
LA SALLE COLLEGE	$30,820
LEHIGH UNIV	$264,410
LINCOLN UNIVERSITY	$250,000
PENNSYLVANIA STATE UNIV	$280,994
SETON HILL COL	$121,685
SHIPPENSBURG STATE COL	$8,176
SWARTHMORE COLLEGE	$9,118
UNIVERSITY OF PITTSBURGH	$263,589
VILLANOVA UNIVERSITY	$249,770
WAYNESBURG COL	$92,123
TOTAL PA	$1,934,874
BROWN UNIVERSITY	$250,000
UNIV OF RHODE ISLAND	$22,102
TOTAL RI	$272,102

INSTITUTION NAME	AWARD AMOUNT
INT AMER U PR SAN GERMAN	$9,237
UNIV OF P R MAYAGUEZ	$3,630
UNIV OF P R RIO PIEDRAS	$2,946,155
TOTAL P R	$2,959,022
CLEMSON UNIVERSITY	$13,215
FURMAN UNIV	$26,526
UNIV OF S C AT COLUMBIA	$44,959
UNIV OF SC SPARTANBURG	$12,090
UNIV SC COASTAL CAROLINA	$127,601
TOTAL SC	$224,391
AUGUSTANA COL	$15,982
SOUTH DAK SCH MINES TECH	$23,594
UNIV OF SOUTH DAKOTA	$50,195
TOTAL SD	$89,771
EAST TENNESSEE STATE UNIV	$30,503
MEMPHIS STATE UNIV	$18,196
TENNESSEE TECHNOLOGL UNIV	$44,047
UNIV OF TENN AT CHATTNGA	$25,000
UNIV OF TENN AT KNOXVILLE	$13,682
UNIV OF TENN AT MARTIN	$6,660
VANDERBILT UNIVERSITY	$250,000
TOTAL TN	$388,088
AMARILLO COL	$102,611
NAVARRO COLLEGE	$10,424
OUR LADY LAKE UNIV OF S A	$13,902
SAM HOUSTON STATE UNIV	$173,068
SOUTHERN METHODIST UNIV	$6,696
SOUTHWEST TEXAS ST UNIV	$51,507
TEXAS A&M UNIVERSITY	$25,833
TEXAS CHRISTIAN UNIV	$43,282
TEXAS TECH UNIVERSITY	$48,394
TEXAS WESLEYAN COL	$13,537
TEXAS WOMANS UNIV	$249,657
UNIV OF TEXAS-ARLINGTON	$37,764
UNIV OF TEXAS-AUSTIN	$16,594
TOTAL TX	$793,269

INSTITUTION NAME	AWARD AMOUNT
DIXIE COL	$214,835
UTAH STATE UNIVERSITY	$24,545
TOTAL UT	$239,380
FERRUM COLLEGE	$2,903
GEORGE MASON UNIVERSITY	$17,570
HUMAN RESOURCES RES ORG	$28,493
JAMES MADISON UNIV	$27,276
KAPPA SYSTEMS INC	$127,177
MARY WASHINGTON COLLEGE	$5,302
RANDOLPH-MACON COL	$252,770
UNIVERSITY OF VIRGINIA	$19,962
TOTAL VA	$481,453
LYNDON STATE COL	$143,648
MIDDLEBURY COL	$24,252
NORWICH UNIV	$12,830
UNIVERSITY OF VERMONT	$42,966
TOTAL VT	$223,696
GONZAGA UNIVERSITY	$45,545
UNIVERSITY OF WASHINGTON	$25,704
WASHINGTON STATE UNIV	$44,153
TOTAL WA	$115,402
LAWRENCE UNIVERSITY	$6,200
MARQUETTE UNIVERSITY	$21,383
MILWAUKEE AREA TECH COL	$250,000
RIPON COL	$183,270
UNIV OF WIS-LA CROSSE	$18,451
UNIV OF WIS-PARKSIDE	$19,385
UNIV OF WIS-STOUT	$11,144
VITERBO COL	$10,150
WISC ACAD OF SCI ARTS	$28,167
TOTAL WI	$548,150
BETHANY COL	$15,708
WEST VIRGINIA WESLEYN COL	$19,650
TOTAL WV	$35,358
UNIVERSITY OF WYOMING	$43,621
TOTAL WY	$43,621

SUPPORT OF EDUCATION THROUGH PROJECT SUPPORT

Question: On page 3 of your statement, you say that NSF will continue to provide support for the education of future scientists and engineers through research project grants. Please elaborate.

a) Isn't it the project research grants that tend to go to the larger universities?

Answer: Direct involvement in research is critical in the education of a research scientist or engineer. NSF project research grants typically contain funds to support research assistants. Graduate students serving in such roles are scientists- and engineers-in-training. With increasing experience, they receive increasing independence in carrying out the research. In addition to this hands-on research training, graduate research assistants complete the formal course work normally required for an advanced degree.

GEOGRAPHICAL DISTRIBUTION OF ASSISTANTSHIPS

QUESTION: You indicate that there is $78.3 million in the FY 1982 Budget for about 9,000 research assistantships. How many assistantships were provided for in FY 1980 and FY 1981?

Is any effort made to see that there is a realistic geographical distribution of these assistantships.

ANSWER:

The following table shows the number of research assistants (graduate students) supported in FY 1980 and the numbers expected to be supported in FY 1981 and FY 1982.

NUMBER OF GRADUATE STUDENTS SUPPORTED, BY ACTIVITY

FY 1980, FY 1981, & FY 1982

Program Activity/Subactivity	No.of Grad.Students Supported		
	Actual FY 1980	Estimate FY 1981	Estimate FY 1982
Mathematical & Physical Sciences..	3,756	3,710	3,715
Engineering......................	1,374	1,420	1,580
Biological, Behavioral and Social Sciences........................	2,140	1,925	1,643
Astronomical, Atmospheric, Earth, and Ocean Sciences.............	1,562	1,552	1,597
Ocean Drilling Programs...........	4	4	4
U.S. Antarctic Program............	114	136	115
Scientific, Technological, and International Affairs...........	233	209	125
Cross-Directorate Programs........	20	20	0
Science and Engineering Education.	xxx	xxx	xxx
Special Foreign Currency Program..	23	21	18
TOTAL, NSF..............	9,226	8,997	8,797

Since the research assistantships are part of research project grants, their distribution is determined by the distribution of grant awards.

SHORTAGES IN COMPUTER, ENGINEERING, GEOPHYSICAL SCIENCES

Question: You note that there is an "immediate" problem in finding trained persons in computer science, engineering and geophysical sciences. What do you mean by "immediate" and how extensive is the problem?

Answer: There is considerable evidence to suggest that a current shortage of trained manpower exists in computer science, engineering, and the geophysical sciences. In the case of computer science, the primary problem is at the Ph.D. level where the production of doctorates has declined over the last five years, leveling off at about 200 per year, 30 percent of whom are foreign nationals. This will have a long run impact on the future training of computer scientists at the bachelor's and master's levels where there is already evidence of a shortage relative to demand.

A similar situation exists in the geosciences and engineering. In engineering, for example, higher entry level salaries for engineers in industry appear to have left enrollments weak at the doctorate level. The number of doctorates awarded in engineering actually declined by one-fourth in 1980 over the preceding year and current enrollment trends indicate that further declines may be expected in the future. As in the case of the geosciences and engineering, this level has major implications for the future training of entry level manpower in these areas where it appears that demand already exceeds supply by a considerable degree. Even though according to the Engineering Manpower Commission of the American Association of Engineering Societies, 58,742 bachelor degrees in engineering were awarded in 1980, an increase of almost 37 percent over the number awarded two years earlier. Reports from engineering schools across the country are that industrial competition for these graduates is stiff and entry level salaries for engineers have outstripped those in virtually all other technical fields.

WHY FEDERAL SUPPORT OF SCIENCE EDUCATION

Question: If trends suggest that ample numbers of trained personnel will be available in all broad fields of science in the future, why should the government have to aid such training at all?

a) Why shouldn't those resources instead be put to use in areas where trends suggest needs are not being filled?

Answer: The government benefits from the research contribution made by the students who participate as research assistants in projects supported by the National Science Foundation and other agencies that support research and development. Of the students supported by NSF funding, 90 percent contribute to the growth of scientific knowledge while working as research assistants on NSF-supported projects. In effect, NSF's resources are put to use in areas where needs are recognized because the research assistants' support is tied to research project support. The research assistants thus contribute to the needs recognized by particular disciplines within the science community.

GLOMAR EXPLORER

Question: Where is the Glomar Explorer at the moment and what is the government doing with it?

Answer: The U.S. Navy has custody of AG 193 (Ex Hughes GLOMAR EXPLORER). The AG 193 is currently berthed in the National Defense Reserve Fleet at Suisun Bay, California in the custody of the Maritime Administration.

The Secretary of the Navy's letter of November 26, 1980 reaffirmed that the U.S. Navy was agreeable to make AG 193 available to the National Science Foundation and that there would be no objection to the conversion of the vessel by NSF to a Deep Ocean Drilling platform. The letter further stated that at that time there were no other proposals for public or private use of the vessel.

Question: a) What is the GLOMAR EXPLORER currently capable of doing in terms of ocean drilling?

Answer: The GLOMAR EXPLORER was designed as a deep ocean work vessel and her capabilities were limited to use of a 13" - 15" heavy drill pipe to lower deep sea machinery to the bottom of the ocean in approximately 17,000 feet of water. As presently configured the EXPLORER has no capability to conduct rotary drilling.

Question: b) What precisely is involved in converting the vessel into a drilling vessel? What is the cost of conversion? How does that compare with the cost of a drill ship that might be purchased?

Answer: Major Conversion Features -- It is proposed to convert GLOMAR EXLPORER to a deep-water drill ship by partially enclosing the existing center well and removing some existing deck structures. EXPLORER will be outfitted with heavy duty-drilling equipment including:

- A 4,000 horsepower winch to raise and lower drill string
- A 2-million-lb capacity derrick
- Automatic riser, pipehandling, and storage equipment
- A 5,000-barrel drilling mud system
- A 120,00 cubic foot dry storage system (bulk and sacks)
- 13,200 ft. of 17 inch internal diameter, neutrally buoyant riser (plus a spare)
- A 10,000/5,000 psi 16-3/4 inch Blow Out Prevention stack (plus a spare)
- Ten 250,000-lb riser tensioners
- The existing dynamic positioning system will be upgraded including multiple retracting thrusters capable of maintaining the vessel on station during the majority of weather conditions that will be encountered at the proposed sites.

Conversion Cost Estimates -- The cost estimates are based on the extensive experience that the NSF's system support contractor, Santa Fe Engineering Services Company, has in the areas of estimating and managing large scale conversion and construction programs for oceanic drilling equipment. They were developed from this experience and from a detailed appraisal of each aspect of the design, conversion, and drilling operations. The estimated cost in 1981 dollars is probably correct to within 15 percent. The total cost of conversion and procurement of the riser and subsea systems is $90 million in constant 1981 dollars. Of this amount $38 million will be needed to convert the EXLPORER hull; $52 million will be needed to buy the heavy duty drilling equipment.

Cost of Alternate Drilling Platforms, existing or new purchase -- An analysis was conducted on the cost differences for a six-hole program, using an existing commercial drillship (DISCOVER SEVEN SEAS) versus EXPLORER. Use of DISCOVERER SEVEN SEAS for the full OMD would entail an estimated cost $132 million higher than the use of the government-owned EXPLORER. The financial break-even point between the EXPLORER and a conventional ship occurs at one, or at most, two holes drilled. The more the program is extended after the first two holes the greater the cost advantage for the government-owned EXPLORER.

Purchase of a new drill ship of EXPLORER's size would amount to approximately $95 million plus $52 million for the needed heavy duty drilling equipment. Thus, purchase of a new drill ship would be at least $57 million more expensive than using EXPLORER.

Question: c) Why would the GLOMAR EXPLORER be superior to any drill ship in existence?

Answer: GLOMAR EXPLORER is superior to any drilling ship now in existence because of its very large deadweight carrying capacity enabling the vessel to remain on station self-sufficient for long periods of time. The stationkeeping and drilling capabilities in inclement weather would also exceed those of existing drill ships. Finally, based on the existing conceptual design the ship would be able to drill with riser in 13,200 ft. of water compared to present state-of-the-art of 6,000 ft. of water. EXPLORER would carry with her all tubular goods for these extended operating limits which no existing drill ship can do.

Question: d) What precisely do you expect from the Systems Integration Contractor?

Answer: The Systems Integration Contractor (SIC) will be responsible for all aspects of Ocean Margin Drilling systems (OMD) acquisition, budgeting and cost estimating, design, development, ship conversion and systems installation and integration, sea trials, acceptance test and evaluation, and OMD operations including logistics support and drilling site operations. The SIC contract is divided into four (4) phases: Phase I - Design; Phase II - Conversion and Fabrication; Phase III - Final Acceptance Testing and Initial Operations; Phase IV - Operations and Maintenance.

Question: e) What type of firm is likely to obtain such a contract?

Answer: The type of firm that is likely to receive such a contract is a relatively large organization experienced in ocean engineering and in managing large multi-faceted projects. The inclusion of knowledgeable subcontractors in ship design, drilling technology, and offshore drilling operations is an essential aspect of the SIC team.

Question: f) What will be the principal criteria in making the go/no-go decision?

Answer:

- o The scientific merit of the basic research and its potential long term contributions in the national interest.
- o The capability of the drilling system to achieve the scientific goals.
- o The ability to carry out the drilling operations in a reasonable time frame.
- o The successful negotiation of a long term agreement covering ship operations between the government and the petroleum industry.
- o A plan to effectively manage this unique university/government/industry program.
- o Final cost estimates within acceptable limits

Question: g) Why can't the oil companies totally fund research of this type or at least a larger portion of it?

Answer: Oil company research funding goes almost entirely to exploratory research. Exploratory research is the use of geophysics, geology and development of drilling technology to directly pin-point reserves of oil and gas for commercial drilling.

OMD plans basic research on the geophysics and geology of the earth using similar drilling technology. From the oil companies viewpoint this is very long term research with a 10-20 year pay off. OMD research will not locate oil and gas reservoirs. Therefore, the oil companies by themselves would not fund an OMD research program at all.

Joint funding of OMD by government and the oil companies constitutes a new approach involving multi-million dollar commitment of oil company funds to basic marine earth sciences research.

The fifty-fifty cost sharing agreement is seen by both sides as a fair way to begin such collaboration.

Question: h) Specifically, how will the FY 1982 funding be used?

Answer:

- o Science -- The FY 1982 funds for science will be used to produce the comprehensive science plan for the entire program. This document will be based upon the information being obtained through the regional data syntheses and planning workshops. A few site specific studies and surveys necessary to obtain definitive information for the planning of individual drill sites and experiments will begin in FY 1982.

- Engineering -- The Systems Support Contractor (SSC) will continue to provide NSF with engineering and project management support during the design, modification, and operation phases of the project. Gradually, the SSC role will change from evaluation of preliminary designs to monitoring and evaluating design work performed by the Systems Integration Contractor and its subcontractors.

  The Systems Integration Contractor (SIC) will complete the engineering design and cost estimates necessary to enable government and industry to make the final decision before proceeding with the program. Bid packages including specifications and comprehensive contract drawings will be sent to qualified shipyards. These design drawings and specifications will enable the shipyards to respond with fixed price quotations to the SIC for the ship modifications.

Question: i) Do we know what other countries have done technologically in this area?

Answer: In recent years other countries have made great strides in offshore drilling technology. Based on their leasing and exploration policies, nations such as Norway and England have gained the leadership in drilling equipment and operations in such areas as the North Sea. Complex drilling platforms are routinely built outside the U.S. in Europe and Asia.

Very deep water drilling is still dominated by U.S. technology.

APPLYING SCIENTIFIC RESULTS

Question: You are moving applied science programs into the science disciplines and engineering research support fields. Doesn't it take the application of science and engineering developments to insure economic progress and don't you take the risk of losing some of the application by this move?

Answer: It is certainly true that economic progress occurs, in part, as the result of new and innovative applications of the results of basic and applied research in science and engineering. "Application" itself is a highly complex, often risky undertaking which is carried out in the United States either by private industry or by mission agencies of the Federal Government. There is no guarantee that scientific and engineering research will automatically result in successful applications leading to improved economic performance. And, when such linkages do occur, there are frequently lengthy delays between scientific or engineering understanding and "solutions" of a problem and the development and marketing of a successful application based, in part, on that "solution". Successful application depends on many complex economic, social, and technological factors.

The Foundation has never assumed responsibility for the successful development and application of knowledge in the full sense of these words. However, it has actively attempted to encourage successful applications of scientific and engineering knowledge by others in a number of its applied programs as well as in such things as its small business and university/industry programs. This is a role which NSF has performed effectively and there is no reason to believe that the reorganization of applied research should significantly diminish its effectiveness in this regard.

Question: What do you plan to do to insure that applied activities continue to receive proper support?

Answer: In the Engineering Directorate, programs previously identified with applied research have been transferred, intact, with the same program officers, the same research and user communities. These programs now constitute an important part of the engineering activities. Other research directorates are in the process of adjusting their programs, staff, peer reviewer lists and advisory panels to reflect their broadened responsibilities in applied science. In addition, a new tracking system for maintaining applied research proposals will be introduced at the beginning of FY 1982.

FLOOD ENGINEERING

Question: Please explain what you are doing in the area of "flood engineering."

Answer: In FY 1980 the Division of Civil and Environmental Engineering, through its program in Water Resources and Environmental Engineering, spent approximately $500,000 on research into problems associated with floods such as, flood estimation and reservoir operation. The NSF Authorization Act for FY 1980 (P.L. 96-44) instructed the National Science Foundation to conduct a study of flood hazard mitigation policies and to transmit a report to Congress by September 30, 1980. A committee of experts was assembled to prepare this report and the report itself was transmitted to the Honorable George E. Brown, Jr., Chairman, Subcommittee on Science, Research, and Technology, Committee on Science and Technology of the House of Representatives on September 11, 1980.

In FY 1981, support of flood related topics continues to be undertaken. The total expenditure is expected to be similar to that reported above for FY 1980.

COAL TRANSPORT

Question: You indicate that you will be pursuing work on thermodynamic and transport properties relevant to coal. Please elaborate.

Answer: The Chemical and Process Engineering Division supports research by Professor J. M. Prausnitz at the University of California, Berkeley. This research concerns the thermodynamic properties of mixtures in process design for energy and chemical products. The project includes both experimental measurements and methodologies for estimating thermodynamic properties of interest in the design and operation of plants producing energy from coal or heavy hydrocarbon liquids. The emphasis is upon those thermodynamic properties needed for design of gasification plants and the associated processes needed for environmental protection.

EARTHQUAKE HAZARDS

Question: You have requested $19.9 million for earthquake hazards research. Please explain how you would use the funds?

a) Are you coordinating your activities with FEMA and other federal agencies?

Answer: The guidelines for the Earthquake Hazards Mitigation program were laid out in the "Newmark-Stever" report.* NSF's responsibilities were summarized in the Implementation Plan of the Earthquake Hazards Reduction Act (PL 95-124):

> The NSF shall, "...support fundamental research studies on earthquakes, and basic and applied research on earthquake engineering and policy."

These NSF responsibilities for earthquake engineering and policy are carried out by the Earthquake Hazards Mitigation (EHM) program in the Engineering Directorate. The EHM program is divided into 19 separate areas. These areas are listed below as well as the planned expenditures for FY 1982.

Subject	Expenditures (Millions of Dollars)
Analysis of destructive earthquake ground motions	1.5
Instrumentation for strong earthquake ground motions	1.7
Geotechnical earthquake engineering	2.3
Analytical methods for structural response	2.9
Experimental structural research	2.7
Existing structural systems	2.0
Non-structural and architectural systems	.7
Architectural and planning influences on earthquake risk	.3
Seismic effects on coastal and inland waterways	.4
Seismic effects on lifeline facilities	1.0
Post-disaster earthquake investigations	.2
International cooperative research programs	.3
Information transfer and technology implementation	.8
Seismic effects on dams and reservoirs	.3
Combined seismic and other natural hazards	.3
Socioeconomic aspects of mitigation	.8
Preparedness	.7
Disaster impacts and responses	.6
Dissemination research and utilization	.4
	19.9

a) The activities of the Earthquake Hazards Mitigation Program are coordinated with other agencies involved in the earthquake problem in a variety of ways. An FEMA representative attends all of our Advisory Committee meetings and actively participates in the policy discussions. Informal liaison between program managers, meetings on important managerial issues and joint participation on technical committees and in professional organizations all contribute to this coordination effort. Coordination with other agencies, particularly the United States Geological Survey and the National Bureau of Standards, is accomplished in much the same manner.

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*Earthquake Prediction and Hazard Mitigation Options for USGS and NSF Programs. U.S. Government Printing Office, September 15, 1976.

INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS (IIASA)

Question: NSF has in the past provided funding for the International Institute for Applied Systems Analysis (IIASA) in Vienna.

Recently a Soviet participant in the program reportedly returned home after being accused of providing confidential information on North Sea oil resources to the Soviet Union. Has NSF looked into this matter?

Was there any unauthorized release of information, and is this likely to affect the Institute's future ability to obtain sensitive information in its work?

Are better security procedures necessary or, indeed, is it possible to have adequate security procedures in such an institutional framework?

Has the U.S. provided any sensitive (i.e., either classified or proprietary) information to the Institute?

In carrying out its activities, IIASA obviously must depend upon some information supplied by the Soviet Union and Eastern bloc countries. Is NSF satisfied that the data IIASA is working with is sufficiently accurate to permit reliable analysis?

You note that negotiations are underway with the White House and State Department to phase out funding for IIASA. What are NSF's reasons for wishing to phase out such funding?

Is NSF encountering objections from the White House or State Department?

What legal obligations does NSF believe the U.S. has to continue funding?

Answer: NSF has not investigated the matter regarding the accusation of a Soviet staff member at IIASA of providing confidential information to his government. His alleged activities were not related to his IIASA duties.

NSF has not been informed of any unauthorized release of IIASA information. IIASA information is freely available to its staff for use in its studies and reports. It is not clear what "unauthorized release" of IIASA information would consist of.

NSF has not been informed of any studies of the need for or adequacy of security procedures in such an organization as IIASA. All work is supposed to be conducted on an unclassified basis. All data bases held by IIASA are thus unclassified, as are all its reports.

NSF has not been informed of any sensitive U.S. information provided to IIASA.

NSF has conducted technical assessments of the scientific reports of IIASA and has sponsored evaluation visits by U.S. scientists. The results of these efforts showed that the technical output of IIASA was of high quality. NSF has received no information about the accuracy of information provided to IIASA by the USSR and Eastern bloc countries, or for that matter any other country, and has formed no judgment whether the data are sufficiently accurate for reliable analysis.

Given the very large reductions in budget for international programs, NSF plans to phase out the funding for IIASA are based on the larger number of contacts between U.S. and foreign scientists which occur per dollar spent under bilateral cooperative arrangements, compared with IIASA.

NSF, OMB, and the Department of State continue to discuss the implications of phasing out the funding. The White House, in its FY 1982 budget request to Congress, budgets no funds for IIASA.

The following points constitute the NSF position on future NSF support of U.S. participation in IIASA:

The NAS has an obligation under the IIASA Charter to provide one year's notice of intention to resign, effective in December. This notice has not been given; the next opportunity to give notice will be December 1981. Thus the NAS is obligated to provide the U.S. dues for IIASA for FY 1982.

The obligation of the NSF is moral, not legal, but is important because the credibility of the United States government in meeting international commitments is involved. NSF will ensure that this obligation is fully met.

INTERNATIONAL COOPERATIVE SCIENCE ACTIVITIES

Question: You note that the budget provides for increased cooperation with Western Europe and Japan. Please identify specific programs and the amount involved in each.

Answer: The response to this question assumes that the budget line item for "International Cooperative Science" will be funded at the requested level ($9.80 million) and that all of it will be available for the purposes requested; i.e., none of it will be required to support U.S. participation in IIASA.

The funds tentatively budgeted for U.S. participation in cooperative activities with industrial countries (Australia, Japan, New Zealand, and selected countries of Western Europe) is $4 million. Allocation of this amount among country programs for Japan and Western Europe will be made at the beginning of FY 1982 and will be based on the balance among levels of effort that will have been agreed to by NSF and its foreign partners at that time. Established programs (Japan, France, Italy) will grow slightly and previous levels of effort will be an additional basis for allocation. Funding levels for these programs will range from $0.5 million to $1 million. For more recently established programs (Belgium, Finland, Germany (FRG), Greece, Sweden, Switzerland, United Kingdom) a higher rate of growth will be encouraged, with funding levels at $0.1 million to $0.2 million per program.

UNIVERSITY RESEARCH LABORATORIES AND INSTRUMENTATION PROGRAM

Question: Please provide a list of the institutions receiving grants in FY 1980 and FY 1981 under the University Research Laboratories and Instrumentation program.

Answer: Although the University Research Laboratories and Instrumentation Program has been under consideration for several years, no awards have been made under the program because it has yet to be initiated.

CROSS-DIRECTORATE PROGRAMS

Question: Isn't your proposal to eliminate Cross-Directorate programs another example of cutting back on smaller institutions while allowing programs that benefit a few major universities to continue?

Answer: The reason that the Cross-Directorate Programs are proposed for elimination in FY 1982 is that they have been determined to be too narrowly focused or of lower priority than other NSF research activities in the major fields of science and engineering.

In general, Cross-Directorate Programs were not targeted to any size category of institution. For example, the Two-Year and Four-Year College Research Instrumentation Program made awards to many small colleges but also to institutions with large enrollments--the criterion of eligibility was not size but the fact that the institution primarily trained undergraduates and awarded no (or very few) doctorate degrees in sciences and engineering. The previously proposed for elimination improve research facilities--now to be postponed, along with other new starts--would have assisted major universities. Other Cross-Directorate Programs, for example the Alan T. Waterman Award, the NSF Planning and Evaluation activities, and the Research Initiation and Improvement Programs (such as those for women and minority scientists) obviously had no institutional size criteria. In summary, it is not correct to assume that Cross-Directorate Programs were directed exclusively or even primarily toward smaller institutions.

SMALL BUSINESS INNOVATION PROGRAM

Question: Please provide a list of activities undertaken in FY 79 and FY 80 under the Small Business Innovation program.

a) If you did not have a reduction of $2.5 million programmed for FY 82, how would you use these funds?

Answer: The SBIR program is a three-phase approach to funding research on NSF program objectives and encouraging the conversion of that research into technological innovation and commercial applications. Phase I represents small exploratory awards to determine whether the research idea appears technically feasible and whether the firm can do quality research. The most promising projects from Phase I are funded for Phase II -- the principal research activity. Although both Phases I and II are funded by NSF to meet NSF objectives, they also can serve as preventure capital for high-risk, research-based ideas. Phase III is the conduct or process development phase for the small firm to pursue commercial objectives. Phase

III funds must be obtained privately from a third party such as a venture capital firm or a manufacturer already in the same field.

The following activities were undertaken under the Small Business Innovation Research Program in Fiscal Year 1979 and Fiscal Year 1980:

1. Phase I -- A single SBIR program solicitation was conducted each year resulting in 408 Phase I proposals with 54 awards in Fiscal Year 1979 and 530 Phase I proposals with 62 awards in Fiscal Year 1980.

2. Phase II - Eleven Phase II awards were made from Fiscal Year 1980 funds, two from the Fiscal Year 1977 solicitation and nine from the Fiscal Year 1979 solicitation.

3. Phase III - Follow on private funding, as a result of the 1977 solicitation, amounted to about $9 milllion by the end of 1980, and is expected to exceed $35 million by July 1, 1981.

4. Small Business Conferences - Two interagency Small Business Conferences on Federal R&D were held each year. Fourteen Federal agencies participated in each conference and attendance at each conference was between 200 and 350.

    (a) The $2.5 million reduction occurs in the revised Fiscal Year 1981 budget as part of the President's Fiscal Year 1981 rescission. The original FY 1981 and Fiscal Year 1982 budgets for the program were $13.0 and $14.5 million respectively. Current levels for both Fiscal Year 1981 and Fiscal Year 1982 are $5 million.

    The budget reductions forced a sharp reduction in the number and size of Phase II awards, and a stretchout of these awards into Fiscal Year 1982 and 1983. It also poses the likely elimination of a Fiscal Year 1983 solicitation. The restoration of the $2.5 million in FY 1981 would allow more Phase II awards to be made in FY 1981, reduce the stretch-out and ensure the FY 1983 solicitation.

NATIONAL SCIENCE FOUNDATION
SMALL BUSINESS INNOVATION RESEARCH PROGRAM
PHASE I AWARDS - SEPTEMBER 1979

FIRM	LOCATION	PROJECT TITLE	AMOUNT
Chemical Threats to Man and the Environment			
1. Environmetrics, Inc.	St. Louis, MO	Personal Dosimeter for Anesthetic Gases	$24,973
2. Hazen Research, Inc.	Golden, CO	Separation of Radium-226 and Thorium-230 from Uranium Ore	$24,600
3. Ionomet Co, Inc.	Brighton, MA	Vapor Deposited Silver Halides for Thin Layer Chromatography	$24,980
4. Lancaster Laboratories, Inc.	Lancaster, PA	Research on a Rapid and Simple Detection for Asbestos	$21,210
Alternative Biological Sources of Materials			
5. Ecoenergetics, Inc.	Richmond, CA	Polysaccharide Production by Microalgae	$24,696
6. EIC Corp.	Newton, MA	Low Temperature Thermoconversion of Biomas to Useful Chemicals by Lewis Acid Catalysts	$22,024
Human Nutrition - No awards			
Science and Technology to Aid the Physically Handicapped			
7. Telesensory Systems, Inc.	Palo Alto, CA	Investigation of PVF_2 Tactile Stimulators for the Optacon	$24,640

	FIRM	LOCATION	PROJECT TITLE	AMOUNT
8.	Threshold Technology, Inc.	Debran, NJ	Low-Cost, High Performance Speech Recognizer for the Handicapped	$25,000
9.	Universal Textile Machine Corp.	Lawrence, MA	Development of a Micro-Solenoid Operated Braille Display Cell	$25,000
10.	Vibrasound Research Corp.	Denver, CO	Hearing Aids for Spatial Perception and Localization	$24,815
Advanced Production and Manufacturing Processes				
11.	Advanced Mechanical Technology, Inc.	Newton, MA.	Cutting Force Measurement in Production Machining via Instrumented Tool Holders	$25,000
12.	Amex Systems, Inc.	Hawthorne, CA	Mini Arc Welding	$24,031
13.	AMPEC Corp.	Winchester, MA	Research on the Optimization of Viscous Fluid	$20,475
14.	The Bethesda Corp.	Silver Spring, MD	Torque Limiting Sockets for Impact Wrench	$25,000
15.	L.N.K. Corp.	Silver Spring, MD	Recognition of Parts and Their Orientation for Automatic Machining, Handling and Inspection	$25,000
16.	Machine Intelligence	Atherton, CA	Microcomputer-based Natural Language	$25,000
17.	Radiation Monitoring Devices, Inc.	Watertown, MA	Photovoltaic Detectors for High Intensity X-ray Measurement	$25,000
18.	Scientific Process & Research, Inc.	Highland Park, NJ	On Line Direct Digital Control of Extrusion Processes	$24,985

FIRM	LOCATION	PROJECT TITLE	AMOUNT
19. Xytel Corp.	Lombard, IL	Research on an Interactive/Microcomputer Technique for Balancing Assembly Systems	$23,625
Measurement and Advanced Instrumentation			
20. Advanced Mechanical Technology, Inc.	Newton, MA	Magnetic Sheet Steel Lamination Detection	$25,000
21. Advanced Research & Applications Corp.	Sunnyvale, CA	X-Ray Optics for Projection Lithography	$24,993
22. American Liquid Xtal Chemical Corp.	Kent, OH	New Instrumentation for Temperature Measurement	$25,000
23. EIC Corp.	Newton, MA	Electrochemical Evaluation of the Electronic and Transport Properties of Silicon	$24,366
24. Ionomet Co., Inc.	Brighton, MA	Vacuum Deposited Silver Halide as an Electron Resist	$24,987
Materials and Processes			
25. Browning Engineering Co.	Hanover, NH	Extreme Impact Velocity Metal and Ceramic Deposition	$25,000
26. Crystal Systems	Salem, MA	Growth of Ruby Crystals by Heat Exchange Methods	$25,000

FIRM	LOCATION	PROJECT TITLE	AMOUNT
27. Glass & Ceramics International, Inc.	Lomita, CA	Energy Conservation in the Building Industry by Using Industrial Waste Materials	$24,996
28. Bio-Metric Systems, Inc.	Minneapolis, MN	Affinity Crosslinking for Enzyme Technology	$24,989
29. Liquid Chemical Co., Inc.	Hanford, CA	Selective Membrane Separation of Fine Solids	$25,000
30. Quantronix Corp.	Smithtown, NY	Dual Wavelength Laser Thermal Processing of Semi-Conductors	$24,960
31. Spire Corp.	Bedford, MA	A Novel Technique for Fabricating Optoelectronic Materials	$25,000
32. Spire Corp.	Bedford, MA	Semiconductor Processing by Electron Beam Pulse - Induced Surface Reactions	$25,000
33. W.J. Schafer Assoc.	Wakefield, MA	Laser Purification of Silane	$23,350
Deep Mineral Resources			
34. Emtec Engineering, Inc.	Berkeley, CA	Computer Modeling of Electromagnetic Responses from Deep Mineral Resources	$24,691
35. LuTech, Inc.	Berkeley, CA	Geophysical Probing by Probabilistic Potential Theory	$25,000
36. Utah Geophysical, Inc.	Salt Lake City, UT	Feasibility Study for a Seismic Drill Bit Location and Guidance System	$24,675

FIRM	LOCATION	PROJECT TITLE	AMOUNT
37. Utah Geophysical, Inc.	Salt Lake City, UT	Seismic Fracture Mapping	$24,938
Marine Resources			
38. Thomas H. Herbert, Ph.D.	Tallahassee, FL	The Design and Field Testing of a Dual-Species Trap to Capture Spiny and Scyllarid Lobsters	$24,915
Plant Productivity			
39. Great Western Research	Mesa, AZ	Economic Evaluation of On-Farm Salinity Mitigation Options	$22,991
40: K. M. Nursery, Inc.	Carpenteria, CA	Clone Propagation of Jojoba via Tissue Culture	$24,724
Reclamation of Wastewater and Sludges			
41. Cal Recovery Systems, Inc.	Richmond, CA	Benefits and Problems of Refuse-Sludge Composting	$19,599
42. D.B. Clayton & Assoc.	Houston, TX	Removal of Silica from Cooling Water for Activated Alumina	$25,000
43. EIC Corp.	Newton, MA	Chromium Recovery from Tannery Industry Wastes	$24,931
44. Gravi-Mechanics Co.	Naperville, IL	The Entrapment, Concentration and Recovery of Heavy Metals from High-yield Exhausts by Use of Stabilized Soil Absorption Beds	$24,970
45. Rickel Manufacturing Corp.	Salina, KS	Utilization of Wastewater Sludge by Simultaneous Injection of HN_3 and H_3PO_4 for Complete Crop Nutrient Requirements/Sludge Plus	$25,000

FIRM	LOCATION	PROJECT TITLE	AMOUNT
46. Sonic-Clean, Inc.	Kenner, LA	Application of Ultrasonics and Electrostatics in Wastewater Treatment and Disinfection	$25,000
Applied Research Project Support (Open)			
47. Drilling Research Lab, Inc.	Salt Lake City, UT	Oil Recovery Enhancement by Acoustic Means	$24,995
48. Eikonix Corp.	Burlington, MA	Selective Thermal Radiators	$24,987
49. Intertechnology/ Solar Corp.	Warrenton, VA	Pressure Harvesting of Microalgae	$23,431
50. Richard Jablin & Assoc., Inc.	Wrightsville Beach, NC	Low Cost Oxygen for Blast Furnaces	$24,820
51. Lifesystems Co.	Newton, MA	Formation of Monodisperse Amphipathic Bilayer Structures	$25,000
52. Research for Growth & Transfer, Inc.	Houston, TX	A Methodology for Using Non-Linear Engineering Design Functions	$25,000
53. Spin & Space Systems	Phoenix, AZ	Magnetic Suspension for Rotating Equipment	$24,225
54. Waste & Land Systems, Inc.	Ft. Collins, CO	Computer Analysis of Seepage and Groundwater Response Beneath Tailings Impoundments	$25,000

UNIVERSITY-BASED CENTERS

Question: Please provide a list of the university-based innovation centers receiving support in FY 79 and FY 80.

a) What is the justification for phasing these out?

Answer: Centers receiving funding during Fiscal Year 1979 and Fiscal Year 1980 are as follows:

Fiscal Year 1979 - University of Arkansas (Little Rock)
- University of Texas (San Antonio)
- Carnegie-Mellon University (Pittsburgh)
- University of Utah (Salt Lake City)
- University of California (Santa Cruz)

Fiscal Year 1980 - University of Arkansas (Little Rock)
- Industrial Technology Research and Development (Durant, Oklahoma)
- Worchester Polytechnic Institute (Worcester, Mass.)

Centers in operation during Fiscal Year 1979 or Fiscal Year 1980 and not included in the above which received funding prior to Fiscal Year 1979 and Fiscal Year 1980 are as follows:

Fiscal Year 1979 - University of Oregon
- Massachusetts Institute of Technology

Fiscal Year 1980 - University of Oregon
- Carnegie-Mellon University
- Massachusetts Institute of Technology

Innovation centers were initiated by the National Science Foundation in 1973 with the objectives of (1) teaching and providing clinical experience to potential technological entrepreneurs, (2) providing empirical data for study of the innovation process, (3) developing curricula on innovation and technological entrepreneurship, (4)researching and developing a process for invention evaluation, and (5)observing and evaluating the actions of potential entrepreneurs and innovators in a quasi-laboratory setting.

Justification for innovation center phase-down during FY 1981.

Although the work of the Innovation Centers is important, it is not predominantly a research function. Given budgetary constraints, such work is of lower priority than the primary research effort of NSF.

QUESTIONS SUBMITTED BY SENATOR PROXMIRE

MASTER GRANT EXPERIMENT

Question : I understand that in January 1981 pursuant to an American Association of Universities-NSF Master Grant Experiment you instituted a pilot program at ten universities which permits principal investigators at each university to allocate resources among individual NSF programs provided that projects are scientifically or technically related. Apparently a principal investigator with more than one NSF grant will not require NSF approval for use of this allocation authority although NSF approval is required if two or more principal investigators are involved.

I understand that this pilot program includes almost 3,000 grants totaling $432,000,000 at ten universities.

Can you tell us who will be responsible for auditing NSF grants at universities participating in this pilot project?

Do the participating universities know what the audit arrangements will be?

(If NSF will be responsible for auditing these grants) Does the Foundation's 1982 budget request include additional funding to permit NSF to take on this new audit burden and, if so, how much is being requested for the coming fiscal year?

(If no additional resources have been requested) Without additional funding how will the Foundation assure adequate audit coverage of the 3,000 grants involved in this pilot project at the ten participating universities?

Answer: NSF has made arrangements with the cognizant audit agencies for NSF to perform on-site reviews of NSF grants at institutions participating in this experiment. These reviews will include the use of the concept of relatedness. Representatives of the cognizant audit agencies will be invited to participate in the reviews. The basic responsibility for the audit of federal grant and contract awards to the participating institutions will remain with the cognizant audit agencies.

We believe the participating institutions understand what the audit arrangements will be. They have been provided details during the NSF site visits.

At the time the FY 1982 budget estimates were submitted NSF expected cognizant audit agencies to do the detailed audit work. Also when the budget estimates were prepared no decisions had been made by NSF (1) to expand the experiment to include all NSF grants at participating institutions and (2) to add three institutions to the experiment. These facts, together with the increased cost of travel, will require the additional travel funds when NSF establishes its operating plan for FY 1982.

In the event the Office of Audit and Oversight encounters problems in obtaining funds, steps will be taken with the cognizant audit agencies to assure adequate audit coverage.

QUESTIONABLE COST TRANSFERS BETWEEN GRANTS

Question: I understand that under a grant administration experiment that involved only the Foundation's Chemistry Division, certain abuses may have cropped up. For example, one researcher was awarded a new project with an effective starting date of November 15, 1979. One December 12, 1979 he asked the university for permission to incur pre-award costs on his new project with the costs to be transferred from another project which was not scheduled to expire until February 28, 1980. Clearly he had run out of funds on the first project and wanted to use money made available under the second project to cover his over-run. Furthermore pre-award requests are required to be made before the starting date of a new grant and this request was made after the starting date of the grant.

Finally OMB Circular A-21 prohibits cost transfers between grants for reasons of convenience.

Wasn't it improper to approve a "pre-award" request after the effective date of the new grant?

Answer: Under Phase I of the experiment the actions taken would have been permissible. It was NSF's concern over precisely the type of action described here that led to changes in the experiment under Phase II.

Under Phase II, NSF has told participating institutions that they may with good reason approve retroactive actions. The frequency of retroactive approvals will, of course, be a consideration in the evaluation of the ability of institutions to manage research. It should be understood that the experiment is trying to determine the value of such controls.

Question: These costs appear to have been transferred purely for convenience in violation of circular A-21. Isn't this a situation which could easily crop up under the pilot program or do you have controls to avoid a repetition of this occurence?

Answer: The charging of costs to research projects is often arbitrary in the sense that the items for which costs are incurred benefit more than the project to which they are charged and could technically have been charged to other projects. NSF is trying to determine whether recognition of the concept of relatedness will produce more effective research. The intent is to eliminate requirements that needlessly lead to less than optimum use of public funds to advance science. Individual principal investigators have many incentives to optimize the use of the limited funds available for research.

Costs are not being transferred purely for convenience. Under the concept of relatedness in Phase II of the experiment there will be no "cost transfers." Costs are charged to the grant under which funds are provided. P.I.'s will have the option, however, of charging one of the two or more projects when such projects have been specifically determined to be scientifically or technically related. The concept of relatedness attempts to address the problem of cost transfers.

REPORTING EXPENDITURES FOR COMBINED GRANTS

Question: Suppose a researcher is awarded two $50,000 grants? Suppose he then combines them and spends $65,000 on one grant and $35,000 on the other. On his financial report to the Foundation, would he indicate that he spent $50,000 on each grant or would he be required to show that the cost of one grant had increased and the cost of the second had decreased?

(If the answer is that he would show $50,000 being spent on each grant) Doesn't this conflict with the discrete project peer review system which was the basis for funding both projects?

If one or both grants were renewed how would the peer reviewers be able to adequately judge the previous efforts of the researcher in order to determine the researcher's success in carrying out the grants in light of the resources available to him?

If a researcher with two or more Foundation grants desires to combine these grants, I understand he only needs the approval of the university. Will the Foundation know when a researcher combines his grants, and, if so, how will they know?

(If the Foundation will not know when a researcher combines his grants) If the Foundation cannot determine when grants are combined, won't peer reviewers have an exceedingly difficult time in judging the previous efforts of a researcher on a given grant?

Answer: He reports $50,000 spent on each grant. The grantee's records will show how the expenses are distributed to a principal investigator's research.

We do not believe that this conflicts with the discrete project peer review system. The project being supported often is only a part of a researcher's work. NSF is trying to provide more flexibility to produce effective research. A researcher still must complete the work supported in each award. Again, the principal investigator has many incentives for optimizing scarce resources. There is every reason to believe that the public interest and the advancement of science will be best served by giving the principal investigator flexibility to allocate his resources effectively.

Peer reviewers should judge a researcher's success in light of his whole program of research, including how he allocated resources among projects. Information relating to his other research activities is part of the data provided to peer reviewers during proposal reviews. To try to review discrete projects without considering their relationship to all of a principal investigator's research would in most cases give less than satisfactory results.

INADEQUATE EVALUATION OF THE CHEMISTRY EXPERIMENT

Question: I understand that the experimental project involving only the Chemistry Division may have been inadequately evaluated prior to your decision to expand this approach to all National Science Foundation grants within each of the ten universities. For example, I am told that your decision to expand and modify the experiment was based on an evaluation at only four of the nine universities involved in the Chemistry Department pilot program after only six months of operational experience. Is this true?

Is it also true that the Foundation's evaluation report stated that six months was not enough time to permit an in-depth evaluation to be made?

Is it also true that the Foundation planned but did not conduct a one-year evaluation at each of the nine schools involved in the Chemistry Division experiment?

Apparently the Foundation's Director of Audit and Oversight suggested that the Foundation thoroughly review the administrative capabilities of each university's prior approval system before extending the delegated authorities to all NSF grants at the participating universities. Did the Foundation make such a review?

Can you tell the Committee why this new experiment was undertaken before the results of the experiment involving the Chemistry Division were thoroughly evaluated?

Answer: NSF's evaluation of this experiment has been continuous and in-depth. We changed course early on because the first evaluation of four institutions suggested the need for modifications of the master grant concepts. These modifications have been discussed at length and developed with the cooperation of the participating institutions and NSF staff over a period of more than one year. This process has resulted in a large measure of consensus at NSF and at the institutions on the nature and scope of Phase II, which is now being put in place. Phase I, being confined to chemistry, also did not generate sufficient data. The limited experience in Phase I, however, indicated the value of the concepts. To obtain more data and accommodate the participating institutions' requests for expansion to all NSF grants, NSF modified its basic grant language to accommodate the changes from Phase I to Phase II, including substituting the concept of relatedness for the concept of aggregation.

Yes, it was clear, however, that an in depth evaluation of the first phase would not be worthwhile. It is our expectation that in depth evaluation of Phase II will be worthwhile.

These are major research institutions, all of whose systems are under regular audit review. NSF's primary concern has been and remains that there are individuals at each participating institution who have a clear understanding of the experiment and will be involved in the review process for all of the transactions occurring under Phase II.

Phase II is a modification of Phase I. Phase II is not a new experiment but a revision that has been carefully and thoroughly considered.

EVALUATION OF THE GRANT AWARD EXPERIMENT

Question: Has the Foundation developed an evaluation plan for this expanded experiment in grant administration and, if not, when will such a plan be developed?

Shouldn't an evaluation plan have been developed before this grant administration pilot program was begun?

Without having developed an evaluation plan prior to the beginning of this new experiment, how can you be sure that the data you need to do the evaluation will be available at the universities?

Answer: A more detailed "evaluation" plan for the experiment will be developed over the next few months.

Until the experiment was clearly defined, it did not make sense to develop a firm evaluation plan. As we have noted, NSF's evaluation has been continuous and we believe very productive.

Certain delegations of authority have been given to the institutions on an experimental basis. The amount of data available will depend primarily on the use made of the delegations. Because the institutions systems must document actions taken, the necessary data will be available for evaluating Phase II.

SUBCOMMITTEE RECESS

Senator SCHMITT. The hearing is recesssed until May 7, 1981, at 2 p.m., when we will have our subcommittee markup on the fiscal year 1981 supplemental rescission bill.

[Whereupon, at 10:30 a.m. Thursday, April 30, the subcommittee was recessed to reconvene at 2 p.m. Thursday, May 7.]

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT-INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1982

TUESDAY, MAY 12, 1981

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 9:35 a.m. in room 1224, Everett McKinley Dirksen Senate Office Building, Hon. Arlen Specter presiding.

Present: Senators Garn, Schmitt, Specter, and Proxmire.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

STATEMENT OF A. M. LOVELACE, ACTING ADMINISTRATOR

ACCOMPANIED BY:

- ROBERT E. SMYLIE, ASSOCIATE ADMINISTRATOR, OFFICE OF SPACE TRACKING AND DATA SYSTEMS
- SAM KELLER, DEPUTY ASSOCIATE ADMINISTRATOR, OFFICE OF SPACE AND TERRESTRIAL APPLICATIONS
- ANDREW J. STOFAN, ACTING ASSOCIATE ADMINISTRATOR, OFFICE OF SPACE SCIENCE
- CHARLES T. NEWMAN, DEPUTY COMPTROLLER
- ANTHONY J. CALIO, ASSOCIATE ADMINISTRATOR, OFFICE OF SPACE AND TERRESTRIAL APPLICATIONS
- L. MICHAEL WEEKS, DEPUTY ASSOCIATE ADMINISTRATOR, OFFICE OF SPACE TRANSPORTATION SYSTEMS
- STANLEY I. WEISS, ASSOCIATE ADMINISTRATOR, OFFICE OF SPACE TRANSPORTATION OPERATIONS
- C. ROBERT NYSMITH, ACTING DEPUTY ASSOCIATE ADMINISTRATOR, OFFICE OF AERONAUTICS AND SPACE TECHNOLOGY

OPENING REMARKS

Senator SPECTER. Good morning, ladies and gentlemen.

Chairman Garn has a commitment this morning which precludes his being here at the outset of these hearings, so he has asked me to preside in his absence.

We are going to hear testimony this morning from the National Aeronautics and Space Administration, which comes to these hearings this morning with accolades galore for recent performances. It is a pleasure for the subcommittee to welcome Dr. Alan M. Lovelace, Acting Administrator of NASA.

PREPARED STATEMENT

Your full statement will be made a part of the record, Dr. Lovelace, in accordance with committee procedures.

[The statement follows:]

STATEMENT OF ALAN M. LOVELACE

Mr. Chairman and Members of the Subcommittee:

I welcome this opportunity to present President Reagan's revised budget request for NASA for Fiscal Year 1982.

Before presenting details of the request, I would like to congratulate you, Mr. Chairman, as well as the new Members of the Subcommittee. We look forward to working closely with you. The successful first flight of the Shuttle last month marks the beginning of a new era in space. We now face the challenge of completing the development program and moving into operational use of the Space Transportation System in such a way that we fully exploit its unique capabilities. We will do our best to justify your support in meeting this important objective.

President Reagan has proposed a comprehensive program to bring about a recovery of the Nation's economy so as to reduce the burdens of high inflation, high taxation, and over-regulation. The program calls for fundamental redirection in the role of the Federal Government, including, of particular importance to NASA, spending cuts to reduce the budget deficit.

Achieving the NASA portion of the reductions proposed by the President in the FY 1982 revised budget requires a decrease of $604 million from the request accompanying the budget submitted in January. For the Fiscal Year 1982 revised budget as submitted by President Reagan, NASA is requesting a total appropriation of $6,122 million. Of this amount $4,903 million is for Research and Development, $105 million is for Construction of Facilities, and $1,114 million for Research and Program Management.

While this request does not contain all that we believe NASA could effectively pursue to exploit our potential for both near- and far-term benefits to productivity and technological superiority, it does provide adequate amounts for the development of an operational capability for the Space Transporation System and balanced programs in Space Science, Applications, and Aeronautics. The attached table to my prepared statement summarizes the major elements of the request. The revised budget for Fiscal Year 1982:

- — preserves the Space Shuttle research, development, and production schedules leading to a first flight in April and to an operational fleet of four orbiters supporting civil and military needs from launch sites on both coasts in 1984:
- — maintains an option for a fifth Shuttle orbiter;
- — supports continued development of the Space Telescope on schedule;
- — schedules the Galileo mission to Jupiter for a 1985 Shuttle launch using a modified Centaur upper stage;
- — provides support for flight missions such as Voyager that have been launched and are returning valuable scientific data;
- — provides for continued development of Landsat-D for launch in 1982;
- — provides for preparation for early Space Shuttle operational missions at a somewhat reduced flight rate;
- — eliminates or defers all FY 1981 and 1982 new program initiatives in Space Science, Aeronautics and Applications;

- deletes the United States Solar Polar spacecraft, but supports our commitment to the European Space Agency by providing a 1986 launch opportunity for the ESA spacecraft;
- eliminates funding for the Solar Electric Propulsion System for future high propulsion requirements;
- makes significant across-the-board cuts in aeronautical and space technology development, but retains an effective aerospace research base;
- deletes planned Construction of Facilities projects including the Transonic Dynamics Tunnel, the Small Engine Component Test Facility, the Mach 19 Nitrogen Tunnel and a project to reduce energy consumption;
- lowers NASA Civil Service employment levels by 840 from the previously planned level of 22,713.

Specific reductions and deferrals in the ongoing NASA program include the following:

In Space Science, cuts for FY 1982 total $172.5 million. Major changes include:

- the Venus Orbiting Imaging Radar, proposed for launch in 1986, has been deferred until 1988; FY 1982 acivity will focus on detailed early design efforts;
- the overall Spacelab payload flight schedule will be stretched out to effect savings in FY 1982;
- launch of the Gamma Ray Observatory is delayed from 1986 to 1988;
- the International Solar Polar Mission which was scheduled for launch in 1985, has been restructured. The United States spacecraft is being deleted. We are prepared to continue this cooperative mission by funding the United States instruments to fly on the European-built spacecraft, and are discussing with the European Space Agency a launch opportunity for the ESA spacecraft in 1986, using a Centaur upper stage in the Shuttle.
- deferral of research and analysis activities;
- deferral of planned mission operations.

In Space Applications, reductions total $110 million; major changes include:

- delaying development of instruments for a proposed Upper Atmospheric Research Satellite;
- eliminating the evaluation phase of a joint international search and rescue mission;
- cancelling the proposed Geological Applications Program relating to geological and mineral exploration;
- paring work on materials processing in space;
- delaying and reducing agricultural application of remote sensing data (AgRISTARS);
- cancelling the National Oceanic Satellite System, a tri-agency operational demonstration involving a new satellite;
- terminating the Technology Transfer program and phasing down the Technology Utilization program.

Aeronautics, Space Technology and Energy program reductions total $78.9 million, including:

-- deferral of the proposed Numerical Aerodynamic Simulator;

-- and eliminating direct funding for NASA energy technology activities.

Other major programs in aeronautics that have been cancelled or deferred include efforts in supersonic cruise research, variable cycle engine and V/STOL systems technology. In addition, a proposed initiative in large composite primary aircraft structures was eliminated. In Space Technology, funding for the Long-Duration Exposure Facility has been reduced but its flight readiness remains unaffected.

Detailed information on this request, by program area follows.

SPACE SHUTTLE

As we reported to the Space Science and Applications Subcommittee last fall, an indepth review of the program was conducted by Administrator Frosch last June and July. At that time, we established the following program schedule:

1) Launch by the end of March 1981, and

2) A planned 18-month Orbital Flight Test(OFT) Program that will lead to an initial operational capability in September 1982.

All activities occurring in the program since that time have supported these dates with the one exception of a few weeks slip of STS-1 to mid-April.

Also, during the past summer, a certification review of 13 technical areas of the Shuttle program was conducted by the NASA Chief Engineer assisted by teams of experts not involved in the program. A large number of recommendations were submitted to the Space Shuttle program covering a range of activities including acceptance testing, qualification testing, vehicle checkout, major ground testing, and analysis activity. The program response to the recommendations was reviewed with the Administrator and Deputy Administrator and the overall assessment provided a strong program endorsement with increased confidence in the success of STS-1.

FY 1981 main engine activities included single engine and mated engine testing, and the preliminary flight certification program in preparation for STS-1. The technical problems occurring in 1980 (a fuel preburner burnthrough, a main injector post failure, a failure of an orifice in a thrust control sensing port) have been corrected. In addition, the three engines to be used for the first orbital flight were modified, re-acceptance tested, and re-installed in the Orbiter Columbia in November, 1980. The main engine program has now accumulated well over 100,000 seconds of operation, compared to a program target of 80,000 seconds established several years ago. The final three engine main propulsion test firing was successfully completed on January 17.

In the external tank program, the tank for the second orbital flight has been delivered to KSC. The remainder of the tanks for the orbital flight test program, along with the first four tanks (including the first lightweight tank) for the operations phase of the program, are in various stages of manufacture and assembly at the Michoud Assembly Facility.

The final solid rocket motor qualification test firing occurred in February 1980. This completed a series of four development firings and three qualification firings. Subsystem component qualification tests were completed to support STS-1. All of the segments for STS-2 and six of the eight segments for STS-3 have been completed.

The first Space Shuttle orbital flight (STS-1) was successfully launched from Kennedy Space Center on April 12, 1981, at 7:00 a.m. EST. This near-perfect first flight in the series of four met all of the primary objectives in demonstrating a safe launch into orbit and return of the Columbia and its crew of Commander, John W. Young, and Pilot, U.S. Navy Captain Robert L. Crippen.

The planned flight duration of 54 1/2 hours, or approximately 36 orbits, was achieved, culminating in a near-perfect landing on April 14 at Edwards Air Force Base, California. After de-servicing and detailed inspection, the orbiter was ferried back to the Kennedy Space Center last week where it is now being prepared for the second flight test.

During the flight, all orbiter systems functioned as predicted with only minor problems reported. All mission test objectives were achieved.

The tile bonding and testing techniques used in the manufacturing of Columbia proved to be successful. One tile (in a very non-critical area of the Orbital Maneuvering System POD) came off during ascent and segments of a relatively small number of other tiles were also lost - all of which were in non-critical areas with no resulting over temperatures on the structure. In several areas tiles took some large gouges. These survived re-entry, however, with very minimal effect. The tile experienced temperature levels much lower than predicted. As a result of the flight current estimates are that 100 tiles will be replaced and 300 tiles repaired. An additional 100 tiles, which were identified as replacement candidates prior to the flight, may also be replaced.

Overall, because of the excellent performance of the orbiter, it is believed that repairs and modifications required as a result of the first flight can be minimized.

The operation and performance of the Shuttle's main engines during all phases (start preparation, ignition, thrust build-up, throttling, mainstage, shutdown and propellant dump) of the ascent were excellent. A thorough inspection of the engine hardware will be performed at Kennedy.

The external tank performed in a completely nominal manner. The tank separated from the orbiter on schedule and impacted in the Indian Ocean very close to the predicted location.

The solid rocket boosters performed as predicted during ascent and separation from the external tank. The recovery system operated as programmed. All parachutes deployed as planned, however, damage to the aft skirts was somewhat more severe than anticipated. Each booster lost one of the main parachutes after impact due to loss of flotation devices. The reasons for the damage are being evaluated in detail.

All major launch support systems, such as the Launch Processing System, performed as designed and supported the countdown and launch satisfactorily. Launch pad damage from the STS-1 launch was minimal. Damage was less than occurred on any Apollo launches, and considerably less than the damage that occurred on the corresponding first Apollo launch.

Preparations are now underway for the second Space Shuttle test flight, currently planned for early this fall.

For Fiscal Year 1982, we are requesting $740 million for Shuttle Design, Development, Test and Evaluation. Activities planned for the coming fiscal year include continuation of the OFT test program, and additional life testing of hardware. This request provides for the following major activities:

- Continuation of main engine propulsion testing to demonstrate 109% of rated power performance

- Completing delivery of the fourth solid rocket booster flight set hardware for the OFT program

- Completing delivery of two external tanks for the OFT program
- Completing analysis of STS-1 and STS-2 flight data for application to the subsequent OFT flights
- Completing first qualification firing of the performance improved solid rocket motor, and
- Completing refurbishment of the STS-1 solid rocket boosters.

The Shuttle production request for FY 1982 is $1.154 billion. This provides the necessary funding for the orbiters currently in the production phase plus long-lead materials to maintain an option for a fifth orbiter. The delivery schedules for the three orbiters in production remain as follows: Challenger, June 1982; Discovery, September 1983; and Atlantis, December 1984.

These production funds are also required to continue the fabrication and assembly of full power level configuration flight engines, the second line of ground support equipment and facilities, and spares and other equipment necessary to support the flight rate requirement. This request will provide for the following major activities:

- Completing the second set of flight main engines,
- Continuation of follow-on orbiter fabrication and assembly, and
- Reconfiguring Columbia for first operational flight.

We have requested $300 million for changes and systems upgrading in FY 1982. These funds will be used to accomplish necessaryy modifications which result from the test program and changes and upgrading efforts to flight and ground systems.

SPACE FLIGHT OPERATIONS

A total of $910.9 million is requested for Space Flight Operations. The budget includes five major categories; - STS operations; operations capability development; Spacelab; development, test and mission support; and, advanced programs.

Space Transportation Systems operations, for which a total of $464.2 million is requested, includes Shuttle operations, upper stages, and payload support activities.

The STS operations activities provide for specific capabilties and continuing support to integrate the Space Shuttle system, the Spacelab, and the upper stages into a versatile and economical system by the appropriate combining of payloads, experiments and mission objectives on specific flights. Operational flights will be provided with the required flight planning, recurring hardware and consumables, and all launch, flight recovery, crew, and related support.

FY 1982 funding will support the continued procurement, manufacturing, assembly, and checkout of flight hardware for early operational Shuttle flights. This hardware consists of solid rocket boosters, external tanks, orbiter vehicle replenishment spare equipment, and upper stages such as the spinning solid upper stage. This funding will also support development of standardized Shuttle flight plans for operation of the avionics software and flight control systems. This includes development and maintenance of the major engineering analysis programs for flight plans support and systems utilization planning. Plans and procedures for early operational missions will be developed in detail to reflect mission profiles, thermal and dynamic load requirements, and crew activities for each mission.

The largest increase in this category is an increase of $182.5 million in FY 1982 for Shuttle operations. This funding is required for continuation of procurement of raw materials and sub-assemblies for external tanks and solid rocket boosters as well as manufacturing, assembly, and checkout of this flight hardware to support the current traffic model. FY 1982 funding is also required for flight operations planning at Johnson Space Center, which includes mission operations planning, crew training, engineering support and analytical integration for initial operational flights, beginning in late 1982.

Funding in FY 1982 of $40 million is required to continue the procurement of major components and initial sub-system assembly of the upper stages to support NASA missions including Tracking and Data Relay Satellites, International Solar Polar Mission, and Galileo.

The upper stages include the Inertial Upper Stage (IUS) and the Spinning Solid Upper Stage (SSUS). The IUS (2 stage) is being developed by the DOD for DOD and NASA use. Because of schedule delays and a rapid cost escalation of the NASA funded 3-stage IUS, as I testified before the Subcommittee last month, NASA has terminated funding this configuration and has baselined the wide-bodied Centaur as the planetary upper stage for Space Shuttle. NASA plans to contract with General Dynamics Convair to provide the wide-bodied Centaur. The request for proposal was issued on April 9, 1981, with a proposal due date of May 1. In parallel with this process, we are continuing to examine with the DOD and other Government agencies the total requirements for STS upper stage capabilities.

Two sizes of SSUS's are being developed comercially: a smaller, SSUS-D, and a larger, SSUS-A. The SSUS-D will be capable of injecting a 2,450 pound payload into geosynchronous transfer orbit while the SSUS-A will be capable of injecting a 4,400 pound payload into the same orbit.

Funding in FY 1982 for payload support operations of $28.2 million is required to support on-going payload integration analysis and implementation for currently scheduled launches. NASA payloads requiring support in 1982 include: the Long Duration Exposure Facility, Tracking and Data Relay Satellite, Space Telescope, Galileo, and the International Solar Polar Mission.

A total of $143.2 million is requested for operations capability development. Representative elements include the upper stage development, multi-mission and payload support equipment which is required to integrate and checkout payloads and a class of ground and flight hardware. This equipment is reuseable in nature and is required to transport, handle, integrate, checkout, and operate a wide range of payloads.

Mission Control Center Upgrading (Level II) funds included in this request support control center preparations to support simultaneously, orbiters in flight and either a ground simulation or an MCC launch site interface test. The Johnson Space Center Mission Control Center will be reconfigured with additional flight control rooms, support rooms, and hardware and software required to provide the capability to meet the demands of the STS operational flight schedule requirements.

Payload and operations support in FY 1982 will provide definition and mission unique activities in terms of technical content, costs and schedules required for orbital flight test payload integration into the STS system. Activities include analytical integration, prelaunch testing, and post flight payload removal. This project also provides the operations and maintenance of support equipment for payload transportation and Shuttle/payload interface checkout. In addition, funding in FY 1982 will be used to continue development of the Payload Operations Control Center located at the Johnson Space Center.

This request includes $10 million for operations effectiveness. Operations effectiveness is a category of activities essential to NASA's objective of providing safe, reliable, and economical access to space by taking advantage of advances in the state-of-the-art in areas where improvement would enable the STS to achieve greater operations effectiveness. Vehicle hardware, vehicle/cargo processing, system automation and mission operations are included in this funding.

The FY 1982 request includes $5 million for performance augmentation studies. As Space Shuttle development has progressed, it has become clear that performance augmentation is necessary, particularly for certain missions to be launched from the Vandenberg Air Force Base (VAFB). To achieve this capability, NASA performed a preliminary evaluation of alternative concepts, and the liquid boost module concept was baselined for further study. However, because there is a need to continue these studies for an additional year, other options such as uprating the main engines to 115 percent of rated power level and solid rocket motor filament-wound case segments will be explored. These studies will be continued through FY 1982 to allow concept selection and initiation of development in FY 1983 to support a FY 1987 operational capability.

In the advanced planning area, for which a total of $8.8 million is requested, the emphasis will be in four major categories: unmanned low-altitude platforms, unmanned geostationary platforms, a manned space operations center, and various elements of orbital test and transportation for their support. Design studies will be continued to define platform and power support systems, definition studies of geosynchronous platforms and the concept of the space operations center. A Shuttle-serviced, permanent manned low-altitude facility is under continuing study. Definition studies will also be conducted on large structures, satellite servicing, and advanced transportation options.

We are requesting $110.7 million for Spacelab. Most of this funding is for the continued procurement of the second Spacelab from ESA. This procurement started in FY 1979 and will continue through FY 1984. Delivery of the second Spacelab is expected in increments extending from CY 1981 through CY 1984. FY 1982 funds will also bee used to continue manufacturing of the spacelab-to-orbiter tunnel, to complete manufacturing and testing of the instruments for the verification flights, to complete integration of the training simulator and to complete manufacturing of United States developed ground support equipment.

EXPENDABLE LAUNCH VEHICLES

The $31.2 million requested in FY 1982 will be used primarily for the Delta launch vehicle in support of the NASA missions which will be launched in 1982 and subsequent years. These are the Infrared Astronomy Satellite, the Landsat-D and Landsat-D^{1}, and the AMPTE missions. The funds provided will allow for continuation of hardware production and the necessary launch operations effort to be conducted from the Eastern Space and Missile Center and the Western Space and Missile Center. In addition to the Delta requirement, $800,000, is required for the Scout vehicle systems for support of the cooperative Italian San Marco missions to be launched from San Marco Platform off the East Coast of Kenya in Africa.

The major effort for this program, not reflected in the requested funding is in support of reimbursable users including DOD for communications and navigation satellite launchings, NOAA for weather satellite launches, and the many international and domestic communication satellite users for which NASA provides the launch support.

SPACE SCIENCE

The Space Science budget request for FY 1982 is $584.2 million. The budget request provides $10 million for the Venus Orbiting Imaging Radar (VOIR), a mission to map Venus. The VOIR mission will produce radar images by means of a Synthetic Aperture Radar instrument which will be comparable in resolution and quality to the optical images obtained previously for the other planets of the inner solar system. Although the Venusian surface is hidden by an opaque atmosphere, VOIR will be able to obtain near-global radar coverage revealing details of the surface at a typical resolution of 600 meters (1200 feet).

A more detailed knowledge of Venus's surface is important for the understanding of planetary evolution and history. Comparative planetology, the science that studies and compares phenomena on different worlds, spawns new theories about how and why the Earth behaves as it does. More detailed information about Venus will help in that undertaking. To the space science community and to NASA, VOIR is a high priority.

The FY 1982 budget provides for the continued development of the Galileo mission, for which we are requesting $108 million. The Galileo mission, a cooperative project with the Federal Republic of Germany which will conduct detailed studies of Jupiter and its satellites, is a vital link in providing for the orderly progression of our program of exploration of the solar system. The Galileo mission will be launched on the Space Shuttle in 1985, the change in launch date necessitated by IUS technical difficulties. The orbiter and probe spacecraft will arrive in late-1987. Eleven encounters with the satellites of Jupiter by the orbiter spacecraft are planned durings its twenty-month tour. The probe will penetrate the atmosphere of Jupiter to conduct scientific investigations down to a depth where the pressure is equivalent to ten times the pressure exerted by the Earth's atmosphere.

As part of the budget amendment reductions, the International Solar Polar Mission was restructured by the cancellation of the U.S. spacecraft development for this cooperative mission with the European Space Agency (ESA); however, the U.S. will provide a 1986 launch opportunity for the ESA spacecraft and will continue some experiment development and investigator support to fly experiments on the ESA spacecraft.

The FY 1982 budget includes $119.5 million for the Space Telescope, which will be the most sensitive astronomical observatory ever built. The Space Telescope's resolution, 10 times that of ground-based telescopes, combined with its ability to see objects that are 50 times fainter and 7 times farther away, will reveal a vast region of unexplored space. Difficulties with the Telescope's development have resulted in a recent rephasing of the program. We are confident that we have taken appropriate and effective corrective measures. FY 1982, following a year of peak design, should see the completion of scientific instrument assembly and the beginning of qualification testing. The Space Telescope will be ready for Shuttle deployment in the first half of 1985.

NASA recently selected the Association of Universities for Research in Astronomy, a consortium of 14 universities, to establish, operate and maintain the Space Telescope Science Institute for receipt, evaluation and dissemination of Telescope data. The Institute will be located at The Johns Hopkins University in Baltimore, Maryland.

Eight million is requested in FY 1982 for the Gamma Ray Observatory project (GRO), a spacecraft which will observe the highest energy radiation in the universe. The importance of gamma ray astronomy continues to grow, and we look forward to the scheduled Shuttle deployment of GRO in the first half of 1988, two years later than the original FY 1982 request would have permitted. However, the slower start will be utilized to obtain additional detailed study of design, systems, and interfaces. To hold down total cost of the program, we plan to confirm only four of the five instruments that were selected for the GRO study phase.

The Explorer program, a fundamental element of the space science program, will see the launching of two missions in 1981. The Dynamics Explorer is nearly ready to go, with all instruments in the spacecraft, and testing and calibration underway. It is scheduled for launch in July. The Solar Mesosphere Explorer, which will study atmospheric ozone and the processes which form and destroy it, is scheduled for a September 1981 launch.

The Infrared Astronomical Satellite has proven to be a technological challeng; however, major hardware milestones are being passed, and progress is steady. IRAS is scheduled for launch in the second half of 1982. The IRAS telescope is expected to be shipped to the Netherlands for integration and testing this month.

The Active Magnetospheric Particle Tracer Explorer (AMPTE) design and development will be initiatied in late FY 1981.

Spacelab flights offer unique opportunities to space science, applications and technology disciplines. Three payloads for space science missions have been approved, one of which, OSS-1, has been completed and is awaiting flight.

Space Shuttle flights represents the first U.S. manned space flight in a number of years. Accordingly we have shaped our operational medical and biomedical research programs to be consistent with the challenges of the new United States manned flights. The Shuttle will provide the opportunities to continue the intensive study of biological systems, human, plant and animal, in the orbital space flight environment. The known human problems such as bone demineralization, motion sickness, and radiation effects, to mention a few, will be studied.

The space science program has been a source of both basic new knowledge and inspiration to the people of this country. This past year people the world over accompanied Voyager I on its journey of exploration to Saturn. We expect to continue this tradition of accomplishment with the programs supported by our current budget request.

SPACE AND TERRESTRIAL APPLICATIONS

A total of $377.5 million is requested in the amended FY 1982 budget for NASA's Space and Terrestrial Applications program. While this request reflects a reduction totaling $110 million from the original submission, and will require related reductions totaling $27 million in FY 1981, it still provides the basis for a vigorous ongoing applications program and will support groundwork for future initiatives. The reductions in FY 1981 and FY 1982 reflect, in summary, the following: delayed development of instruments for a planned Upper Atmospheric Research Satellite; cancellation of the National Oceanic Satellite System; a rephased and reduced AgRISTARS program; cancellation of the proposed Geological Applications Program; a reduced level in the Materials Processing in Space Program; cancellation of an "operational evaluation" phase for the Search and Rescue mission; termination of the Technology Transfer program and phasing down of the Technology Utilization program. While these reductions will delay or eliminate the start of new initiatives, the budget for space and terrestrial applications programs has been structured so as to foreclose as few future opportunities as possible.

Of the total request, $165.4 million will be applied to resource observations programs. Emphasis in FY 1982 will focus upon provision of Landsat data continuity by continuing to operate Landsat-2 and -3, and completion of development and launch of Landsat-D. Funds requested will allow for continued support of USDA information needs through the AgRISTARS program; strengthened research in applications of aerospace technology to solid earth geophysics; exploitation of new techniques to retain United States leadership in remote sensing technology; and development of improved sensors required for future land observing systems.

NASA is requesting $8 million to continue work on shortwave infrared focal plane arrays and multi-linear array instrument definition studies. The objective of these efforts is to provide a sound basis for decisions on hardware development for an mulit-linear array instrument and, potentially, a protoflight free flyer mission in support of an operational land observing system.

In FY 1982, we propose to expand the geodynamics program in support of a National effort to develop and apply space technology to the study of crustal dynamics and earthquake mechanisms, through an interagency agreement with NOAA, the U.S. Geological Survey, and the National Science Foundation. Regional crustal deformation measurements for a major portion of the Western United States using mobile laser and radio antenna systems will be initiated, and improvements of these systems in terms of accuracy and mobility will be undertaken.

In the area of environmental observations, a total of $135.3 million is requested. A reduced level of $5 million will allow continued definition study required for development of the Upper Atmosphere Research Satellites Experiments, in preparation for a possible two-satellite mission which will integrate NASA's efforts over the past decade in stratospheric research and provide a more thorough understanding of potential stratospheric changes impacting our environment. Also in FY 1982 development will continue on the Halogen Occulation Experiment and the Atmospheric Trace Molecules by Spectroscopy experiment, both of which are intended to measure certain stratospheric constituents. Analysis of Global Weather Experiment data and research in severe storms will continue at modestly higher levels.

In oceans processes, continued research and analysis will afford improved interpretative capabilities; development of optimal data utilization techniques; study of new remote sensing concepts; and development of methods to provide direct or in situ observations on or within the ocean to complement those from space. As part of our FY 1982 oceans processes applied research and data analysis, we plan to conduct an oceans applications mission study to develop alternate mission concepts for meeting ocean data needs. This is particularly critical in light of the termination of the National Oceanic Satellite System and the proposed related research programs.

Climate research, emphasizing applications of space observations of environmental variables to improve understanding of climate influence and trends, will continue in FY 1982. NASA is requesting $24.0 million for continued development of the Earth Radiation Budget Experiment instruments and spacecraft.

For Materials Processing in Space (MPS) $27.7 million is requested. This funding will afford continued Shuttle/Spacelab payload development, research and technology development activities, definition studies, and efforts toward commercialization. Notably, $6.1 million of this total is requested for materials experiment operations to expand low-gravity experimental capabilities with which early experience will be obtained by both scientific and commercial users. However, development of flight hardware for the Solidification Experiments System, part of the MPS Shuttle/Spacelab payload development program, has been delayed. In FY 1982, the MPS program will expand commercial activities through a variety of joint, no-exchange-of-funds arrangements. Work will continue on NASA's joint endeavor with McDonnell Douglas for development of a continuous flow electrophoresis system flight unit to be accommodated in the Shuttle mid-deck for early flight.

NASA's request for FY 1982 includes $30.3 million to continue the expansion of satellite communication research and development, complete launch preparations for the Search and Rescue mission, and to establish the foundation for a strong data and information systems program to support space applications. Of this amount, $15.4 million is requested for the continuation of multi-year contract efforts for development of a strong technology base for future use of the 30/20 GHz band, including preparation of proof-of-concept multi-beam antenna hardware, on-board switching, signal processing and other radio-frequency components, and for system studies. Funding of these efforts in FY 1982 will place the United States in a position which will allow early decisions on flight demonstration requirements and optimized configurations to assure the leadership position of United States industry in this field and to provide for expansion of our present communications capacity.

A reduced funding level of $1.3 million for the Search and Rescue mission, an interagency program being conducted with France, Canada and the Soviet Union, will allow for completion of development and initial launch in 1982. However, the "operational evaluation" phase, which envisioned procurement of search and rescue equipment for three additional NOAA spacecraft to be used during an extended transition phase, has been deleted. For the Data Systems program, $10.0 million is requested for a comprehensive program designed to solve existing data handling problems, to meet future data systems needs and effectively meet common applications data systems requirements.

The FY 1982 budget reflects a deletion of all funding for the Technology Transfer program and a reduced level of spending from $10.1 to $8.1 million in FY 1981. It also reflects a request of $4.6 million for the Technology Utilization program in FY 1982, a reduction from $14.6 million, along with a planned reduction of FY 1981 funding to $6.8 million. It is the position of the Administration that activities of this nature, which principally support transfer of remote sensing technology to user groups, or disseminate space technology to the non-aerospace private sector, should more properly be funded by the beneficiaries of the service. We have noted the Committee's in its Report on the FY 1981 Supplemental Appropriations and Rescission bill in which NASA is urged to reexamine the reprogramming of $5 million from the earlier planned FY 1981 Technology Utilization funding level. NASA will review its plans in this area as appropriate in light of Congressional actions on the FY 1982 budget.

AERONAUTICAL RESEARCH AND TECHNOLOGY

The request for Aeronautics Research and Technology in FY 1982 is $264.8 million. The objectives of the program are to advance aeronautical technology to ensure safer, more economical, efficient and environmentally acceptable air transportation systems which are responsive to current and projected National needs; to maintain the strong competitive position of the United States in the international aviation marketplace; and, to support the military in maintaining the superiority of the Nation's military aircraft.

The requested program supports these objectives by providing for technology advances in all aeronautical disciplines, stressing the technology areas judged to be the most critical by in-house and external assessments, industry, advisory groups, and other users of technology within and outside the Federal Government. Emphasis will be placed on improving aircraft energy efficiency and performance, reducing noise and pollution, improving safety and terminal area operations, and advancing long- and short-haul air transportation concepts.

The FY 1982 activities are designed to maintain a strong research and technology base in the technology disciplines of aerodynamics, propulsion, guidance and controls, human factors, and materials and structures. Strength in this fundamental research and technology is essential to the future development of new, improved aeronautical products. The aeronautics program also provides focused technology development activity for each of the major classes of aeronautical vehicles, namely transport aircraft, low-speed aircraft, high-speed aircraft, and general aviation.

Transport aircraft technology efforts will continue toward the goal of providing technology capable of major reductions in aircraft fuel requirements. In the Energy Efficient Transport program, work will continue with the major transport airframe contractors to develop and evaluate advanced aerodynamic and active control technologies for derivative and new subsonic transport aircraft. Included are wind-tunnel and flight tests of advanced winglets and of reduced static stability concepts. In the Laminar Flow Control program, emphasis will continue on the development of wind-tunnel test capability, the evaluation of practical wing surface structures and surface material concepts, and preparation for flight tests of wing leading edge laminar flow gloves. In the Composite Primary Aircraft Structures program, the remaining medium-sized primary components will enter flight testing, and fatigue and environmental life tests will continue.

In the Advanced Turboprop program, effort will focus on the design and fabrication of large-scale propellers and modification of the gas turbine drive system for the ground-based test program. In the advanced propulsion systems effort, component fabrication for integrated system tests of high-spool components assembled in a gas generator core engine will be initiated in the Energy Efficient Engine program. The Terminal Configured Vehicle program will emphasize flight investigations of improved terminal operations through the use of advanced avionics systems. Aviation safety efforts will continue progress in the development of cabin materials to reduce crash fire hazards, safe fuels, and the effects of lightning, icing and other severe storm hazards.

In the rotorcraft area, emphasis will be applied to rotor system design methodology and large-scale testing, to technology for high-speed rotorcraft configuration concepts, and to propulsion systems technology. Major research and technology efforts will continue on rotor aerodynamics and acoustics, rotor/ airframe/ propulsion system interactions, structural dynamics, advanced composite applications flight controls and handling qualities, remote site guidance and navigation systems, advanced display and other cockpit systems, human factor pilot machine interfaces, and vibration reduction. Flight research will be continued utilizing the Rotor Systems Research Aircraft, the XV-15 Tilt Rotor Research Aircraft, and a number of other specially equipped helicopters.

The broad-based V/STOL research and technology will emphasize investigation of propulsion and aircraft interference effects in both the low-speed V/STOL and high-speed cruise/maneuver flight regimes. Flight research will continue using the quiet short-haul research aircraft for development of short take-off and landing handling qualities criteria for high lift conditions. General aviation research and technology will continue to emphasize increased safety, improved utility, and greater energy efficiency. Principal activities will include stall/spin alleviation, drag reduction, engine and propeller improvements, and investigations of avionics systems concept for safety and simpler single-pilot operations.

When the TDRSS becomes fully operational in 1984, all low Earth-orbit spacecraft will be supported by this system, which will permit the closing of the majority of the NASA network facilities located within the United States, and in foreign locations. All other space missions, such as planetary and interplanetary spacecraft, and very high altitude Earth-orbiting missions, will be serviced primarily from existing tracking station facilities in California, Spain, and Australia, which will be consolidated under the management of the Jet Propulsion Laboratory. A substantially increased effort will be conducted this year in continuation of this network consolidation which was initiated in FY 1981.

INTERNATIONAL ACTIVITIES

The 1980's promise to be a decade of significant progress in international space cooperation. We will see the culmination of many cooperative projects begun in the 1970's, and will be laying the groundwork for future cooperative endeavors.

An increasing number of foreign nations are now well-equipped to participate fully in the exploration of space. Many countries that have been involved in space for the past decade or more, such as the members of the European Space Agency, the USSR, Canada, and Japan have reached a point where their capabilities in space are quite mature. In the near future, we will see the European-built Spacelab and the Canadian-built Remote Manipulator System fly on the Space Shuttle. We will also benefit from the science data received from several international space science missions that will be launched in the 1980's. The European Space Agency is an active partner in, or contributor to, the Space Telescope and the International Ultraviolet Explorer; the German Federal Republic is providing an important element of the Galileo orbiter; and the Netherlands and the United Kingdom are contributing the spacecraft and ground support system, respectively, to the Infrared Astronomy Satellite.

In addition, developing countries have, over the past decade, become increasingly interested in participating directly in and sharing the benefits of space activities. In August 1982, a major international conference on space, UNISPACE '82, will be held in Vienna under the auspicies of the United Nations. This conference, the first such worldwide gathering devoted exclusively to space in fourteen years, will focus its attention on the benefits of space as they relate to the needs of developing countries.

SPACE RESEARCH AND TECHNOLOGY

The FY 1982 request for Space Research and Technology is $125.3 million. The objectives of the space research and technology program are to provide the technology base necessary to support current and future space activities, to formulate technology options for the future, and to advance technology in order to reduce further the costs of space activities.

The FY 1982 program supports these objectives by stressing technology areas judged to be most critical by advisory groups, a special in-house assessment, and in-house users of the technology. This technology is needed to enhance planned missions and to enable the accomplishment of missions which are beyond current capabilities. Emphasis will be directed toward the identification and development of disciplinary and system technologies to support the development of information systems, transportation systems, and spacecraft systems that will enable future low cost missions. When required, the program demonstrates the readiness of new technology by performing space or ground experiments. These experiments ensure acceptance of the technology for utilization in future missions.

The requested program reflects recognition that basic research and technology must be strengthened if we are to maintain a strong research and technology base in the disciplinary areas of aerothermodynamics, chemical propulsion, materials and structures, electronics and automation, and space power and electric propulsion. These efforts will continue to provide the technology base for future missions requiring information, spacecraft and transportation systems.

SPACE TRACKING AND DATA SYSTEMS

A total of $415.2 million is requested to provide for continuation of the vital tracking, command, telemetry, and data acquisition support to meet the requirments for Earth-orbital spacecraft, planetary missions, sounding rockets, and research aircraft. Support is also provided for all phases of the Space Shuttle flight program. The revised FY 1982 request reflects a net reduction of $20 million from the original FY 1982 request for the Space Tracking and Data Systems program. The reduction reflects changes in support requirements due to proposed deferrals for the Venus Orbiting Imaging Radar (VOIR), Gamma Ray Observatory (GRO), International Solar Polar Mission (ISPM), and Spacelab, as well as a reassessment of the level of support requirement for various missions. The reduction also reflects some deferral in planned systems replacements and reliability modifications, and a general reduction in the operations program. Support will continue in FY 1982 for ongoing missions along with intensive preparation for upcoming approved programs which include Space Telescope, Galileo, Shuttle/Spacelab, Voyager 2 encounter with Uranus and preparation for initiation of the Tracking and Data Relay Satellite System (TDRSS) service.

Investments by foreign governments in space activities continue to rise, and we believe this trend will continue through the 1980's. Certainly, in some instances such as space launch vehicles, communication satellites and remote sensing systems, this trend will result in increased competition. But we should also keep in mind that these growing foreign capabilities can potentially contribute to future cooperative endeavors such as planetary exploration and large structures in Earth orbit, whose cost may be prohibitive for this country alone. Competitive challenges to United States leadership in space are natural outgrowths of growing foreign experience and interest in space. These challenges serve as are a reminder that to stay ahead we need to maintain a vigorous national space program.

CONSTRUCTION OF FACILITIES

We are requesting $104.8 million for Construction of Facilities, a $10.2 million decrease from the $115 million in FY 1981 and a decrease of $32.0 million from the request submitted in January. In addition to approximately $20 million for projects required to support the Space Shuttle, a limited number of other critically needed projects are included in the request. These include major modifications to existing wind tunnels at NASA's Ames Research Center, California, and Langley Research Center, Virginia, to enhance research and test capabilities and improve productivity; modifications to test facilities at Lewis Research Center, Ohio, to provide a capability for long duration corrosion and thermal fatigue testing for engine materials; improvements and modifications to our Deep Space Tracking stations in Goldstone, California, and Australia; and modification to the Space Flight Operations Facility at the Jet Propulsion Laboratory, California, to provide critically needed safety and operational improvements. This JPL facility was the "nerve center" for controlling Voyager I during its recent encounter with Saturn and continues to control and receive data from Voyager II.

The Shuttle-unique projects are located at Kennedy Space Center; Florida, Michoud Assembly Facility, Louisiana; and Johnson Space Center, Texas. They are required to provide essential processing and manufacturing capability to support current and projected Shuttle flight rates.

The budget request also includes the continuing minor facilities work (minor construction, repairs, and rehabilitations and modifications) and necessary planning and design efforts that are essential to preserving the NASA physical plant and its unique research and development capabilties.

RESEARCH AND PROGRAM MANAGEMENT

The Research and Program Management request in the amended FY 1982 budget is $1114.3 million. The FY 1982 Research and Program Management budget reflects a reduction of $22.0 million from the original request, largely realized in reduced personnel costs. These funds provide the wherewithall to perform research, technology and test activities at NASA Centers, and the planning, management and support of contractor research and development activities necessary to meet the Nation's objectives in space and aeronautics research. The civil service personnel funded by this line represent NASA's most important resource and are the strength on which our world leadership in space and aeronautics depends. NASA's scientists and engineers represent a significant portion of this Nation's engineering and technology manpower capability particularly in fundamental aeronautical and space research and technology, and in the management and development of space systems. About three-fourths of the requested funding is required for NASA salaries and related costs. About two percent is for travel which is vital for the management of our research and development programs. The balance is for facility support and related goods and services.

The FY 1982 budget amendment will also have an impact upon FY 1981 Research and Program Management funding. The plan for end-of-year FY 1981 full-time, permanent civil service employment reduced by 840 from the previously planned level of 22,713. As of the end March, the number of full-time permanent people on-board was 22,456. To meet our new end-of-year employment ceiling will require a reduction of 583 over the next six months. Because the level of attrition is not balanced among Centers or skill groups, coupled with the changes required from a programmatic standpoint, the use of reduction-in-force (RIF) procedures may become necessary later in FY 1981. All the decisions that need to be made will not have been completed, however, until late spring or early summer. In addition to effecting a reduction in our personnel ceiling, we are complying with the Administration's guidelines regarding reduction of travel expenditures, with a net reduction of 10 percent planned for the balance of FY 1981. Because of these reductions planned for both personnel and travel in FY 1981, our request for FY 1981 supplemental appropriations for civil service pay increases will be reduced by $10 million to $41.4 million.

The FY 1982 amended budget assumes no additional personnel reductions, and retaining a full-time employment level of 21,873. The budget also calls for minimal increases to account for changes in contractor wage costs, utility rates, the levels of prices for other items we procure, and to restore partially the several service reductions made necessary in FY 1981 due to build-up of support activities in preparation for Shuttle first flight.

Travel funding, however, will remain tightly constrained. The FY 1982 amended budget reflects a reduction of $1.3 million from the original request at a revised level of $25 million. This revised request represents an increase of $5.5 million over the revised FY 1981 level. The increase is required to meet the higher costs of travel estimated for FY 1982 and is the minimum needed to carry out our mission effectively and economically.

In 1980 NASA accelerated gains made in the area of equal opportunity. During the past year, we realized significantly larger increases in the representation of minorities and women in the NASA workforce. Minority representation increased from 9.7% to 11.0% of the total, and women from 19.6% to 21.3%. In the scientific and engineering sector of the workforce, minority representation increased from 6.8% to 7.1%, and women from 4.1% to 5.2%. FY 1980 also marked the year in which we were able to reverse the average age of our technical workforce — the first reduction in a decade — promising a maintained vitality in our workforce fundamental to retaining U.S. leadership in space and aeronautics.

As part of continuing efforts to improve the management of our institutions NASA recently announced two consolidations of major field installations to be implemented over the next few months.

The Dryden Flight Research Center will become an operational element and component installation of the Ames Research Center, and the Wallops Flight Center will become an operational element and component installation of the Goddard Space Flight Center. Dryden and Wallops will retain their identies but will be under the overall management and direction of Ames and Goddard, respectively.

The consolidations will focus the resources of each of the installations on what it can do best. The close relationship between Ames' and Dryden's efforts in aeronautical programs and Wallops' and Goddard's efforts in suborbital programs, as well as the unique facility capabilities and the physical proximity of the installations provides an opportunity to improve overall program effectiveness through these consolidations.

In order to benefit from Dryden's unique capabilities in both personnel and facilities, flight research operations for both Ames and Dryden will be carried out primarily at Dryden.

Similarly, to utilize the unique capabilities at Wallops, sounding rocket development and operations for both Goddard and Wallops will be carried out primarily at Wallops.

The target date for the consolidations is set for October 1, 1981.

In keeping with directions of the FY 1981 Appropriations Conference Report, NASA's estimated FY 1982 Information Collection Budget provides for 29 reports requiring 300,000 burden hours. This is less than 0.15% of the public reporting burden. One report, the contractor financial management report used the bulk of this — 231,700 burden hours in FY 1981. The NASA reporting requirements impose very little burden on the general public.

CONCLUSION

In conclusion, this amended budget request, although it contains no new flight starts or initiatives for Fiscal Year 1982, does represent a balanced program in Space Science, Applications, Aeronautics and Space Technology. It supports the final development phase of the Space Shuttle, production of the orbiter fleet, and development of upper stage capability for planned planetary and other high energy missions. While it does not contain all that we believe we could effectively pursue, it provides for initiation of the operational era of the Space Transportation System and the first step toward exploiting this exciting new potential. I urge your full support for this request.

BUDGET AMENDMENT

BUDGET SUMMARY
(Millions of Dollars)

	FY 1981			FY 1982		
	Current estimate	Proposed revision	Revised estimate	Request pending	Proposed amendments	Revised request
RESEARCH AND DEVELOPMENT						
Space Transportation Systems	2,681.1	+52.5	2,733.6	3,304.2	-168.1	3,136.1
Space shuttle	1,943.0	+60.0	2,003.0	2,230.0	-36.0	2,194.0
Space flight operations	683.7	-7.5	676.2	1,043.0	-132.1	910.9
Expendable launch vehicles	54.4	---	54.4	31.2	---	31.2
Space Science	562.5	-24.0	538.5	756.7	-172.5	584.2
Physics and astronomy	344.7	-24.0	320.7	451.4	-126.0	325.4
Planetary exploration	175.6	---	175.6	256.1	-40.8	215.3
Life sciences	42.2	---	42.2	49.2	-5.7	43.5
Space and Terrestrial Applications	365.3	-27.0	338.3	487.5	-110.0	377.5
Space applications	353.5	-22.0	331.5	472.9	-100.0	372.9
Technology utilization	11.8	-5.0	6.8	14.6	-10.0	4.6
Aeronautics and Space Technology	390.8	-6.0	384.8	469.0	-78.9	390.1
Aeronautical research and technology	276.2	-4.0	272.2	323.6	-58.8	264.8
Space research and technology	110.7	---	110.7	141.0	-15.7	125.3
Energy technology	3.9	-2.0	1.9	4.4	-4.4	---
Tracking and Data Acquisition	341.1	---	341.1	435.2	-20.0	415.2
TOTAL RESEARCH AND DEVELOPMENT	4,340.8	-4.5	4,336.3	5,452.6	-549.5	4,903.1
CONSTRUCTION OF FACILITIES	115.0	---	115.0	136.8	-32.0	104.8
RESEARCH AND PROGRAM MANAGEMENT	1,081.4	-10.0	1,071.4a/	1,136.3	-22.0	1,114.3
TOTAL	5,537.2	-14.5	5,522.7	6,725.7	-603.5	6,122.2
OUTLAYS	5,286.0	-12.0	5,274.0	6,363.4	-468.2	5,895.2

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a/ Includes proposed supplemental of $41.4 million for October 1980 pay raise.

INTRODUCTION OF ASSOCIATES

Senator SPECTER. We would request that you introduce those who are with you and that you summarize your statement, leaving as much time as possible for specific questions on matters of unique interest and substance.

Dr. LOVELACE. Thank you, Senator Specter. I will abbreviate my remarks and start by introducing Dr. Calio, on my left, who is acting in the capacity as Deputy Administrator of the Agency and is assisting me during the transition period. On his right is the Associate Administrator for Space Transportation Operations, Dr. Weiss. We will be joined shortly by Mr. Mike Weeks, who is responsible for the Space Transportation Systems development acquisition activities. On my right is Mr. Tom Newman, who is the Deputy Comptroller of NASA. On his right is Mr. Andrew Stofan, who is the Acting Associate Administrator for Space Sciences.

NASA'S REVISED FISCAL YEAR 1982 BUDGET REQUEST

I welcome the opportunity, Senator Specter, to present President Reagan's revised budget request for NASA for fiscal year 1982. As indicated, I will summarize my remarks.

We look forward to working closely with the new members of this subcommittee, as well as the old members who have supported us through the agency's many activities, up to and including the recent launch of the Shuttle, for which we thank the subcommittee for its support.

This successful first flight of the Shuttle really marks the beginning of a new era in space. I have with me this morning a short film depicting the highlights of this flight which, with your permission, I will show at the conclusion of the hearing, so that you may see first-hand the immediate results of the first flight of Columbia.

Senator SPECTER. How long does the film last?

Dr. LOVELACE. Seventeen minutes. It is narrated by Cmdr. John Young and his pilot, Bob Crippen, as they are, in a sense, sort of walking through the mission.

President Reagan has proposed a comprehensive program to bring about a recovery of the Nation's economy so as to reduce the burdens of high inflation, high taxation, and overregulation. The program calls for fundamental redirection in the role of the Federal Government, including, of particular importance to NASA, spending cuts to reduce the budget deficit.

Achieving the NASA portion of the reductions proposed by the President in the fiscal year 1982 revised budget requires a decrease of $604 million from the request accompanying the budget submitted in January of this year. For the fiscal year 1982 revised budget as submitted by President Reagan, NASA is requesting a total appropriation of $6,122 million. Of this amount, $4,903 million is for research and development, $105 million is for construction of facilities, and $1,114 million is for research and program management.

Senator SPECTER. How do the research components differ, Dr. Lovelace, as research relates to development contrasted to research for program management?

Dr. LOVELACE. The research and program management, the last item that I referred to, Senator Specter, is the line item in the budget which supports the internal operations of the agency and pays the salaries of all of the NASA civil service employees who conduct in-house research and development and/or manage contractual programs. The funds for these programs are contained in the $4.9 billion research and development appropriation. The majority of that is spent external to the agency on contracts in industry and in universities. The other $105 million is for construction of facilities. I think it is relatively self-explanatory. Those facilities are NASA facilities.

While this request does not contain all that we believe NASA could effectively pursue to exploit our potential for both near- and far-term benefits to productivity and technological superiority, it does provide adequate amounts for the development of an operational capability for the space transportation system and balanced programs in space science, applications, and aeronautics.

COST OF EXPLOITATION OF NASA'S POTENTIAL BENEFITS

Senator SPECTER. How much money will you need to achieve the objectives articulated in the first part of that sentence?

Dr. LOVELACE. I think that there are a number of programs that could be effectively undertaken for the United States. One needs to think of these in terms of fiscal year 1982 and the outyears. I suspect that that 1982 figure would be closer to $7 billion than to the $6.1 billion that is represented in President Reagan's amended budget.

Senator SPECTER. Essentially what would a $7 billion budget enable you to do that you can't do within the $6.1 billion budget?

Dr. LOVELACE. In general, it would allow us to expand the capability of the Shuttle system, opening the envelope of capability that is represented by this system. The current budget will certainly get us into that operational arena. It would lay the basis for the near-term—by that I mean in this decade—development of a space operations center, a low Earth orbit operating center, which I think will be required by the United States to conduct and fully exploit space. It would allow us to revitalize the space science program by pulling in some of the opportunities that are available to us in terms of scientific exploration and to reinstate in the applications area certain programs that would have direct and tangible benefit to those of us here on Earth.

OBJECTIVES WITHIN THE REVISED FISCAL YEAR 1982 BUDGET

Senator SPECTER. Will those objectives be obtained with the current budget or will they be somewhat delayed?

Dr. LOVELACE. Some of those will be obtained. As I tried to indicate in my statement, Senator Specter, this budget provides for a maintenance of the capability to achieve some of those goals and to build upon or to expand in the future if that proves to be a desirable thing to do.

The revised budget for fiscal year 1982 does the following:

(1) Preserves the Space Shuttle research, development, and production schedules leading to a first flight in April and to an operational fleet of four orbiters supporting civil and military needs from launch sites on both coasts in 1984;

(2) Maintains an option for a fifth Shuttle orbiter;

(3) Supports continued development of the Space Telescope on schedule;

(4) Schedules the Galileo Mission to Jupiter for a 1985 Shuttle launch using a modified Centaur upper stage;

(5) Provides support for flight missions, such as Voyager, that have been launched and are returning valuable scientific data;

(6) Provides for continued development of Landsat-D for launch in 1982;

(7) Provides for preparation for early Space Shuttle operational missions at a somewhat reduced flight rate;

(8) Eliminates or defers all fiscal year 1981 and fiscal year 1982 new program initiatives in space science, aeronautics, and applications;

(9) Deletes the U.S. Solar Polar spacecraft but supports our commitment to the European Space Agency—ESA—by providing a 1986 launch opportunity for the ESA spacecraft;

(10) Eliminates funding for the solar electric propulsion system for future high-propulsion requirements;

(11) Makes significant across-the-board cuts in aeronautical and space technology development but retains an effective aerospace research base;

(12) Deletes a number of planned construction of facilities projects; and

(13) Lowers NASA civil service employment levels by 840 from the previously planned level of 22,713.

SPECIFIC REDUCTIONS/DEFERRALS IN NASA PROGRAMS

Specific reductions and deferrals in the ongoing NASA programs include the following:

In space science, cuts for fiscal year 1982 total $172.5 million. Major changes include:

(1) The Venus Orbiting Imaging Radar, proposed for launch in 1986, has been deferred until 1988; fiscal year 1982 activity will focus on detailed early design efforts;

(2) The overall Spacelab payload flight schedule will be stretched out to effect savings in fiscal year 1982;

(3) Launch of the Gamma Ray Observatory is delayed from 1986 to 1988;

(4) The International Solar Polar Mission which was scheduled for launch in 1985 has been restructured. The U.S. spacecraft is being deleted. We are prepared to continue this cooperative mission by funding the U.S. instruments to fly on the European-built spacecraft and are discussing with the European Space Agency a launch opportunity for the ESA spacecraft in 1986, using a Centaur upper stage in the Shuttle;

(5) Deferral of research and analysis activities; and

(6) Reduction in planned mission operations and data analysis activities.

SPACE APPLICATIONS

In space applications, reductions total $110 million. Major changes include:

(1) Delaying development of instruments for a proposed Upper Atmospheric Research Satellite;

(2) Eliminating the operational evaluation phase of a joint international search and rescue mission;

(3) Canceling the proposed geological applications program relating to geological and mineral exploration;

(4) Paring work on materials processing in space;

(5) Delaying and reducing the AgRISTARS effort;

(6) Canceling the national oceanic satellite system, a triagency operational demonstration involving a new satellite; and

(7) Terminating the technology transfer program and phasing down the technology utilization program.

AERONAUTICS, SPACE TECHNOLOGY, AND ENERGY

Aeronautics, space technology and energy program reductions total $78.9 million, including:

(1) Deferral of the proposed Numerical Aerodynamic Simulator; and

(2) Eliminating direct funding for NASA energy technology activities.

Other major programs in aeronautics that have been canceled or deferred include efforts in supersonic cruise research, variable cycle engine, and V/STOL systems technology.

In summary, Mr. Chairman, this amended budget request, although it contains no new flight starts or initiatives for fiscal year 1982, does represent a balanced program in space science, applications, aeronautics and space technology. It supports the final development phase of the Space Shuttle, production of the orbiter fleet, and development of upper stage capability for planetary and other high-energy missions.

While it does not contain all that we believe we could effectively pursue, it provides for initiation of the operational era of the space transportation system—the first step toward exploiting this exciting new potential.

I urge your full support for this request and would be pleased to attempt to answer any questions that you or the subcommittee may have.

RESULTS OF SUCCESS OF FIRST SHUTTLE FOR BETTERMENT OF MANKIND

Senator SPECTER. Dr. Lovelace, the successful Space Shuttle mission which was just accomplished was inspirational and very warmly received by the American people and people of the world. But if you had to state in simple terms what the Space Shuttle mission means to the average American citizen, how would you characterize it?

Dr. LOVELACE. Simply put, I think the first successful flight of the Shuttle represents the opening of the last dimension and the last frontier that we, as Americans, have, and that is space. There are tremendous uses to which we will be able to put this capability, both in applications that will benefit our lives here on Earth as well as scientific investigations which will lead to a better understanding of our role in our universe. I think that we have seen the beginnings of that in such things as improved telecommunications, weather forecasting, and the exploration of our solar system.

Senator SPECTER. Could you be specific? What will the practical effects be on weather forecasting, which is of great importance to everyone?

Dr. LOVELACE. I think you will see that the data collected from the vantage point of space, with proper scientific analysis, will ultimately provide for better short-range and, hopefully, eventually better long-range forecasting.

Senator SPECTER. How does it work?

Dr. LOVELACE. For example, we may be able to give almost real-time warnings of severe storms developing in parts of the country, such as in the Midwest, by detecting temperature changes and pressure changes in the atmosphere. By correlating this data with the formation of severe storms, NOAA would, for example, be able to provide tornado alerts that could save lives and property that might otherwise be lost in such events.

Senator SPECTER. How many miles from Earth would it be necessary to travel before sufficient data can be gathered?

Dr. LOVELACE. That varies. You can operate from 105 nautical miles up to geostationary orbit, which is 22,500 miles.

Senator SPECTER. Is 22,500 miles a useful height for weather forecasting?

Dr. LOVELACE. That is the nominal altitude for geostationary satellites. It provides the kind of data that you see regularly on the news, such as weather fronts moving across the country. Then at varying altitudes below that, satellites with particular sensors can provide a variety of data which, when integrated, can give an even more useful picture of the weather patterns over the whole globe. These sensors can also provide better predictability of weather situations on Earth.

Senator SPECTER. One of the items you mentioned was telecommunications. Could you describe how this program will aid telecommunications?

Dr. LOVELACE. The technology is clearly in hand, for example, to have personal telecommunications and electronic communications transmitted directly to homes. One of the things required for that, of course, would be large antennas in space. These antennas to date have been constructed on the ground, folded like an umbrella, and launched by an expendable launch vehicle. The Shuttle provides the capability to take that antenna, deploy it in low Earth orbit, and to insure that it is operational prior to insertion into geosynchronous orbit.

Senator SPECTER. What does this antenna do?

Dr. LOVELACE. The antenna is used to reflect radio signals to Earth, allowing for point-to-point communication or transmission of direct television broadcasting to the home that is desired. The Shuttle capability will eventually allow for on-orbit checkout and testing of these devices and repair and/or return of them to the Earth, if difficulties are encountered.

Ultimately, I think we are going to need a manned space operations center in low Earth orbit that would provide a construction shack for the assembly of payloads, such as the antenna that I just described.

SPECIFIC BENEFITS OF SHUTTLE TO SCIENCE AND DEFENSE

Senator SPECTER. When you mentioned the assistance to acquisition of scientific knowledge, can you be any more specific as to what that will mean?

Dr. LOVELACE. There are two elements, one of which is to attempt to satisfy man's curiosity about himself, his origins, and the world around him. One would hope that the human race would never lose this curiosity or turn its back on trying to understand it. The second element is the practical application of data for solution of problems here on Earth, which eventually results from the scientific understanding.

We talk a lot in NASA about comparative planetology and what that does in terms of understanding, for example, how our planet was created, how it is maturing in relation to its sister planets in the solar system, which has practical benefits to us here on Earth, and the relationship of our planet to our stars and the Sun.

Senator SPECTER. Dr. Lovelace, one final question before I turn the questioning over to Senator Proxmire. What is the projection, if any, on military benefits from the program?

Dr. LOVELACE. The space transportation system is indeed just that. It is a vehicle for cheap, easy access to low Earth orbit. It will have implications in the civil sector as well as in the military. It will provide a capability to all of these sectors which they do not have today in terms of capability to launch, retrieve, size, and weight of payloads at costs substantially less than we project for the expendable launch vehicles. I would probably be not the best witness to project the detailed benefits that would accrue from that, but it is clear that the DOD will benefit from the capability represented by a fully operational space transportation system.

Senator SPECTER. Is there any projection or possibility of joint action with what we have learned with other nations of the world, including the Soviets?

Dr. LOVELACE. The possibility always exists. Having the capability that is represented by the Shuttle allows us the opportunity to entertain joint or cooperative undertakings with many countries of the world, including Russia. At the moment, we are not entertaining any such cooperative activities; but, clearly, the versatility of that system leaves many options and opportunities to do that if it were deemed appropriate.

Senator SPECTER. Thank you very much, Dr. Lovelace.

Senator Proxmire?

TIMING OF SHUTTLE AND IMPACT ON OTHER PROGRAMS

Senator PROXMIRE. Dr. Lovelace, I certainly agree with both you and the chairman that the Shuttle did constitute a technological achievement that was a source of immense pride to us and will be very useful in many ways in the future. You and the chairman have cited weather forecasting, telecommunications, military benefits, including military intelligence, and industrial processes in the weightless state and, I suppose, the eventual colonization of space.

At the same time, the Shuttle program did crowd out other scientific probes that would have been very useful to us, including the last program cited by the distinguished chairman, the Solar Polar Mission, which is a mission we were to work on with the European countries. The Europeans contributed over $100 million to the Solar Polar program, as you know. We scrubbed it, to their great dissatisfaction. This is going to make it a lot harder to cooperate with the Europeans in the future, it seems to me.

As you know, I have questioned the timing of the Shuttle, especially in view of the enormous amount that the Shuttle is going to cost before we are through, at least $20 billion. We have already appropriated $11.8 billion. We know, on the basis of our experience, that it is going to cost more than the $18 billion currently estimated as necessary.

I just wonder if it wouldn't have been wiser to follow the advice of people like Professors Van Allen and Rathjens and other distinguished scientists who feel, on reflection, in spite of the excitement involving the Shuttle, we would have been wiser to have proceeded a little more slowly and cautiously and gone ahead with these other missions.

Dr. LOVELACE. Senator Proxmire, I find myself in some philosophical disagreement with those who would say that we should not have undertaken the development of the Shuttle, at least in this time frame. History will very, very shortly prove that it was in fact a very prudent thing for us to have done, that the investment that we will have made, and that we will make in the future to complete the system, will be one of the wisest investments that this country has made.

It is true that we have had to very carefully review our priorities in all of our programs—science and applications and aeronautics; and we have reduced some of those, reluctantly. They are all good programs, particularly in the science area. It is virtually impossible to make either additions or deletions to that planned program without affecting our international cooperative relationships, since, almost without exception, all of these programs have elements of international cooperation. That is the nature of science. It will probably continue to be the nature of science.

COST OF SHUTTLE OPERATIONS

Senator PROXMIRE. Dr. Lovelace, the May 6 issue of Aerospace Daily printed excerpts from an interview that publication had with you. The story quoted you as saying that Shuttle operations cost figures drawn up in the 1970's were partially designed "to defend a program on the basis of its cost effectiveness," and the article goes on to quote you as saying: "I happened not to agree with those figures. Now we have a lot more data and it is clear that it is going to cost more."

Could you tell us, in general terms, how much more it is going to cost to operate the Shuttle than NASA originally estimated, in constant dollars?

Dr. LOVELACE. No, sir; I cannot at this time. I think it is early to do so. As I was indicating in that discussion, we are only now beginning to get the data from the first flight and the first turnaround, which should be factored into those calculations; that will be done.

The reason that I disagree, as I was quoted, with the cost-benefit analyses that are done on programs early in their research and development phase, is that there is very little data on which to actually base those calculations. You make your best estimates, and they always turn out to be only that—estimates. We are getting to the stage now where we can refine those estimates. That will be done in the next 6 months. Certainly, it is going to take 5 years of flights before we can be convinced that we are coming up on the learning curve to obtain a higher degree of precision and accuracy.

Senator PROXMIRE. You are quoted a little more pessimistically in this article, which is dated last Wednesday. The article states:

> NASA will probably have to reduce the number of planned Space Shuttle flights during the next 5 years while paying more than expected for each mission, according to NASA Administrator, Dr. Alan Lovelace.

The article goes on to say that despite the success of the Shuttle's first space flight, such delays and cost increases will probably be unavoidable, that it will take at least 5 years to achieve fast turnaround times, and that there will be some adjustments in the flight schedule. Is that correct?

Dr. LOVELACE. That is correct. There will be some adjustments in the flight schedule, Senator Proxmire, in order to factor in the amendments of the budget that we are presenting and discussing with you today. These, in fact, have reduced a number of NASA missions, as I described in my statement, while removing flight requirements, and also to reflect the real understanding, flowing from the first flight and experience with the Shuttle system.

MANAGEMENT OF TDRSS PROCUREMENT

Senator PROXMIRE. As you may know, earlier this week I gave your agency my golden fleece award for the way that you handled the Tracking and Data Relay Satellite System procurement. My decision was based in large part on a report on the system by your own Office of Inspector General. I think it is to your credit that your Inspector General's Office is as alert as it is. An Acting Inspector General filed the report. I thought it was an example of how useful the Inspector Generals can be, because I know it is not comfortable for any agency, including NASA, to have to deal with this kind of report. In any event, the report said, in part:

> We believe the overall TDRSS—Tracking Data Relay Satellite System—experience must be considered other than successful as an experimental model for alternative planning, justification, financing, acquiring, and managing major advanced space system programs. Although it's not possible to specifically quantify the full extent of the excessive cost, we estimate it to be in a range of $500 million to $1 billion.

Senator PROXMIRE. Can you comment on that statement?

Dr. LOVELACE. I think that the Inspector General has written a very good report. I, along with you, applaud him for undertaking the examination of the TDRSS.

Senator PROXMIRE. Is it true that your dominant reason for going off budget and proposing a lease of TDRSS rather than a purchase was the lack of appropriations?

Dr. LOVELACE. Since I was not involved in that decision, I find it difficult to say where I am coming from. It is my understanding that that was not the dominant reason, but I am speaking for people who are not here.

Senator PROXMIRE. Is Mr. Lilly here?

Dr. LOVELACE. He is not here today. I think the dominant factor was to get into a service contract concept for the communications services.

Senator PROXMIRE. The Office of Inspector General's report characterizes the Federal Financing Bank loan to the contractor to build the TDRSS for lease to NASA as "one made by the Government, guaranteed by the Government, and one which will be repaid by the Government." Is that the case?

Dr. LOVELACE. I think it is paid to the Government as well.

Senator PROXMIRE. How is it paid to the Government?

Dr. LOVELACE. We are paying back the Federal Financing Bank, and it seems that, in fact, it is not funds that are leaving the Government except for those services which we will utilize.

Senator PROXMIRE. My reason for asking this question is this seems to be an unusual kind of a contract. It seems to be almost free of any inefficiency penalty. There is no incentive, it seems to me, for the contractor to perform. I don't see that he takes any risks if he performs badly. In most cases a contractor who performs badly has to suffer some loss. In this case he doesn't seem to do that.

Dr. LOVELACE. I think one of the things, Senator Proxmire, that we learned in the TDRSS procurement—I happen to agree not entirely with the conclusions that have been drawn by various groups on it—was that we were contracting for a service, or we thought we were contracting for a service, that, in fact, at that time did not exist. That has proven to be where a lot of the difficulties arose. I do not find anything particularly bad about the financing arrangements. I do not think that they will necessarily, in the final analysis, cost the taxpayers any more once the services have been achieved.

COST GROWTH IN TDRSS CONTRACT

Senator PROXMIRE. Now the IG's report said interest costs have increased from $220 million in the original contract to $689 million, an increase of 213 percent. Have you had any further growth in interest costs above that $689 million?

Dr. LOVELACE. There has been, Senator Proxmire, some additional increase in that. I would have to ask Mr. Smylie if he would comment on that; however, I do think there has been some increase in interest charges.

Senator PROXMIRE. Can you tell us the magnitude of that increase?

Mr. SMYLIE. Yes, sir. Our current estimate for the interest on those programs, based on a projection of future interest at 13.5 percent, as compared to a 7.5 percent interest rate in the original contract, would mean the interest costs are approaching $1 billion on this program.

Senator PROXMIRE. Were any project delays attributable to poor contractor performance? I take it the increase in interest costs are due, in part, to project delay; right?

Mr. SMYLIE. The delays to date are due to the availability of the launch vehicle to launch the TDRSS.

Senator PROXMIRE. None of the delays were due to poor contractor performance?

Mr. SMYLIE. No, sir.

Senator SPECTER. Mr. Smylie, would you identify yourself for the record, please?

Mr. SMYLIE. Robert Smylie, Associate Administrator, Space Tracking and Data Systems.

Senator SPECTER. Thank you.

DOMINANT FACTOR FOR PROPOSING LEASE ARRANGEMENT

Senator PROXMIRE. The Inspecter General's report says:

> NASA also acknowledged that the lack of appropriations was the dominant reason for going off budget and proposing a lease arrangement rather than a purchase acquisition approach.

The existing arrangement had many, if not all, the provisions of a decision for purchase. Are they wrong in that conclusion?

Dr. LOVELACE. I was never interviewed by any of the Inspector General people.

Senator PROXMIRE. You weren't there at the time the decision was made.

Dr. LOVELACE. I was there at the time the Inspector General collected his data to write his report, but I do not know who he spoke to on that.

Senator PROXMIRE. He is talking about the reason NASA proceeded with a lease arrangement. You weren't there at the time the decision was made. He could hardly hold you responsible. You weren't there to make the decision.

Dr. LOVELACE. Then I assume the Inspector General spoke with the prior Administrator and Deputy Administrator; however I do not know that to be a fact.

Senator PROXMIRE. If delay is attributable in any part to poor contractor performance, does the contractor, in that event, absorb the portion of the interest costs attributable to that part of the delay?

Dr. LOVELACE. The contractor shares in the penalty associated with delays and loss of commercial service as well. I would like to mention that all of the interest that is paid, is paid to the Federal Government.

Senator PROXMIRE. Say that again? I missed that.

Dr. LOVELACE. All of the interest that we have been talking about will be paid to the Federal Financing Bank.

Senator PROXMIRE. At any rate, it is a cost to the Federal taxpayer, is it not?

Dr. LOVELACE. No, it is not. I fail to see how the Federal Government taking it out of one pocket and putting it into another is costing the taxpayer any additional money.

Senator PROXMIRE. That is the trouble with the Federal Financing Bank. We get the notion it is a nice, free ride because it is outside the budget. The fact is that the delay means that the Federal Government, one way or another, has to raise that money and pay interest on it, does it not?

Dr. LOVELACE. The fact is that the Federal Government is financing its own program and paying its own interest, that is correct.

Senator PROXMIRE. Yes. My point is that if the project is delayed, it costs more. I agree there is no budgetary effect because you are using the Federal Financing Bank.

Dr. LOVELACE. It also does not increase their taxes in order to do TDRSS in this fashion.

Senator PROXMIRE. The IG's report said that:

> The use of appropriated funds to restructure or liquidate the existing financial arrangements could avoid a substantial portion of the remaining $589 million in interest costs.

Do you agree with this statement?

Dr. LOVELACE. That is true. It could avoid that.

Senator PROXMIRE. Then why shouldn't the Government restructure the existing arrangement?

Dr. LOVELACE. The Government may choose to restructure the existing arrangement.

Senator PROXMIRE. Will you let us know when and if you make that decision?

Dr. LOVELACE. I hope the new Administrator who will have the results of the examination of the IG's report, for which we received the golden fleece award, can make his decision and report back to the subcommittee.

BORROWING MONEY THROUGH CONTRACT FOR LAUNCH VEHICLE COSTS

Senator PROXMIRE. The Inspector General's report is also critical of NASA for borrowing money through the contract for launch vehicle costs. The report describes the arrangement this way:

> The Government, through the Federal Financing Bank, is loaning the contractor money which the contractor, in turn, loans to NASA which NASA must repay to the Federal Financing Bank with interest. The net effect of this transaction is that the Government is borrowing from itself and only adds to the contract cost.

The report says NASA could avoid about $92 million in interest costs by providing the first three launches as Government-furnished items rather than run the financing through the lease service contract.

Why don't you implement that recommendation?

Dr. LOVELACE. That is probably true. Senator Proxmire, there are a lot of things that could be done if given a clean sheet of paper, that is, tear it off and start anew. That might be one of the things that could be done and should be done. I think that really needs to be examined. We need to determine if the direct appropriations route is a more attractive way to proceed or not. Those examinations have been underway for some time, Senator Proxmire, in advance of the Inspector General's report.

Senator PROXMIRE. The Inspector General's report indicates that in justifying the lease arrangement, NASA characterized the system in "all go" terms, but "within 90 days after the contract was executed, a serious satellite weight and potential reliability degradation was reported." Why wasn't that information known before the contract was signed?

Dr. LOVELACE. I guess because it was an unknown, Senator.

Senator PROXMIRE. Shouldn't it have been known?

Dr. LOVELACE. Things you do not know are hard to know in advance in order to factor into the contract.

Senator PROXMIRE. Shouldn't it have been knowable earlier if you found out within 90 days of the contract signing? You should have given yourself 90 days to follow this up.

Dr. LOVELACE. I really cannot say 90 days or 120 days. It relates back, Senator Proxmire, to the point I was trying to make earlier, that there was more of a development aspect to the contracting for the serv-ice than there should have been. That probably was one of the elements of the TDRSS procurement which has caused some of the difficulties.

CONTRACTUAL ARRANGEMENTS FOR TDRSS

Senator PROXMIRE. The Inspector General's report indicates that when NASA initiated the TDRSS phase I procurement, the agency's request for proposals required offerors to demonstrate their full financial responsibility for developing, delivering, operating, and maintaining a TDRSS over the entire period of performance. Only two firms were given phase I contracts, and this was before they had demonstrated the capability to assume the required financial responsibility, which was a precondition of selection, according to the IG's report.

After both phase I contractors declared they could not meet this qualification criteria, NASA elected to amend the request for proposals to shift the financing responsibility from the contractor to the Government. However, NASA did not resolicit proposals. Surely more firms would have responded if they knew they could get Government financing.

Why didn't you resolicit proposals and open it up to more firms with the possibility you could have made a better contract?

Dr. LOVELACE. I would have to reexamine the records surrounding that set of decisions, Senator Proxmire. I am not at all sure that we would have received any better or additional proposals. I will examine the records and provide an answer for that.

[The information follows:]

On February 7, 1975, NASA issued a request for proposal (RFP) for TDRSS services. Fifty-seven firms were given copies of the RFP and two major firms responded with proposals.

Because of the nature of the procurement, the RFP states that phase II competition would be limited to phase I proposers. This is an accepted practice in cases where design requirements are developed during phase I, and phase II proposers must have an intimate knowledge of those requirements.

The RFP, in this case, contained a qualification criterion applicable to the business management proposal. The criterion reads as follows:

"Offerors must demonstrate the capability to assume full financial responsibility for developing, delivering, operating, and maintaining a TDRSS over the entire period of performance. Offerors unable to demonstrate that capability will not be selected for negotiation of a contract. Evaluation will be performed in accordance with the policy and standards as set forth in NASA procurement regulations."

During evaluation of phase II proposals, it became apparent to the SEB that difficulties were being encountered with respect to obtaining private financing that would be in complete compliance with the terms and conditions of the RFP sample contract. As a result, an amendment to the RFP was issued to provide payment assurances to the financers of the proposers.

NASA did not relax the requirement in the RFP for the proposers to obtain financing, but adjusted the business approach through loan guarantees and other provisions to further enable the proposers to obtain private financing.

Although the RFP amendment did change the business approach, it did not operate to shift the financing responsibility from the contractor to the Government, nor was it issued to serve as an "arrangement * * * for a Federal Financing Bank (FFB) loan to the contractor." FFB financing became a reality at a much later point in time for different reasons. The amendment was necessary no matter the source of the financing.

As to the matter of whether the RFP should have been canceled when it was learned that neither of the two proposing contractors could meet the financial criterion of the RFP, our judgment was that this would serve no purpose but to delay the program. The likelihood of new sources, unfamiliar with the performance specifications proposing merely because of the adjusted business approach was considered remote.

In addition, no regulatory or internal procurement policy required a reopening of the solicitation under the circumstances.

Senator PROXMIRE. It seems to me that once the financing was guaranteed it would be very surprising if you hadn't received more proposals than the two you had.

Dr. LOVELACE. You have to consider the nature of the requirements of the contract, Senator. We were buying a service, not hardware. We were sharing. I am not sure those would necessarily have been the kinds of activities that other potential contractors would have wanted to have gotten into.

Senator PROXMIRE. I suppose that is possible. You don't know because you didn't go out and resolicit.

Dr. LOVELACE. That is true.

LAUNCH DELAY OF TDRSS

Senator PROXMIRE. Has the first TDRSS launch been delayed beyond September 1982? If so, how long and what are the monthly costs of delay?

Dr. LOVELACE. We are currently manifesting a first launch of TDRSS in the January 1983 time period, which is a delay of 4 months. It is estimated at a cost of about $23 million per month, total, including the interest that we referred to earlier.

Senator PROXMIRE. Thank you very much.

Thank you, Mr. Chairman. I have some additional questions, but I will get to those later.

Senator GARN [presiding]. Thank you, Senator Proxmire.

Gentlemen, I apologize for being late. However, I was attending a leadership meeting this morning at the White House.

I do have an opening statement. But rather than taking your time, I will simply ask that it be placed in the record.

[The statement follows:]

OPENING STATEMENT OF SENATOR GARN

NASA has been and continues to lead the world in the exploration of space and the development of space technology.

NASA contributes directly to national security by pushing technology in areas like rocket propulsion, electronics, and composite materials. In the future, national security requirements will dictate that we operate routinely in space. NASA's Space Shuttle will enable us to do so.

NASA conducts essential work in aeronautics that has helped make the United States the acknowledged world leader in the production and export of civil and military aircraft.

The splendid achievement of Voyager I in its encounter with Jupiter and Saturn were graphic demonstrations of the ability of the space science program to capture the attention of people throughout the world and greatly expand our understanding of the universe in which we live.

An investment in NASA also pays off as a direct stimulus to increased national productivity. The spinoff of NASA's technology is well known. New products are created and new markets established. The space agency is a national resource of scientific and engineering talent that is unmatched elsewhere in the world. We need to maintain it and keep it directed to the future.

Of course, I could not close without mentioning the April 12 flight of the Space Shuttle. This near-perfect first flight met all of the primary objectives in demonstrating a safe launch into orbit and return of the Columbia and its crew of Cmdr. John W. Young and pilot, Robert L. Crippen. A decade of effort culminated in a near-perfect landing on April 14 at Edwards Air Force Base, Calif.

I understand that you have a movie of the flight which we will see later this morning—I look forward to seeing it.

For fiscal year 1982, NASA is requesting $6,122,200,000. Of this amount, $4,903,100,000 is for R. & D., $104,800,000 is for the construction of facilities, and $1,114,300,000 for research and program management.

Senator GARN. My first question is, when do I get to go on the Space Shuttle? [Laughter.]

Before I have you answer the question, I would like you to know that I am younger than Commander Young. [Laughter.]

As a colonel in the Air Force Reserves, I do have 10,000 hours of pilot time. I am not the average layperson. I do have the background and the qualifications needed to fly on the Shuttle. So this is a very serious question, when is the chairman of your appropriations subcommittee [laughter] going to get to ride in the Space Shuttle?

Dr. LOVELACE. I think, sir, if I may be permitted, you sound to me like the 800-pound gorilla. Any time you are ready to go, Senator. [Laughter.]

Senator GARN. I am ready. In fact, I told my wife the other day that I could die happy by finishing my aviation career by going into space. I did make sure she was aware that Commander Young was older than I am.

Senator PROXMIRE. If the chairman would yield, I am not going to ask when the author of the golden fleece could go in the Space Shuttle because I am sure I wouldn't come back. [Laughter.]

Dr. LOVELACE. Senator Proxmire, that system is a round-trip system. You would come back.

TIMELY AND DETAILED INFORMATION ON REPROGRAMINGS

Senator GARN. Also, about 3 years ago I went down to Edwards and flew simulated Space Shuttle landings. So I have had just enough training to be a good passenger.

Last year this committee included in the Senate report language requesting NASA to present more timely and detailed information on reprogramings. What procedures have you implemented to comply with that request?

Dr. LOVELACE. Let me quickly outline the actions we have taken.

In addition to providing for the committees an operating plan which will be updated to reflect any changes, we will, of course, by letter—and have in the case of those actions to date—requested the committees' views on the reprograming actions. In fact, there are three right now, or at least two—one relative to the Shuttle and one relative to upper stages—that are before the committees for consideration at this time.

JUSTIFICATIONS FOR ACTIVITIES AND PROCUREMENTS OVER $10 MILLION

Senator GARN. One of the issues that was specifically mentioned in the report was that you should include in your budget justification all programs, activities, and procurements over $10 million. Have you included that information in this year's request?

Dr. LOVELACE. We have, in each section of the budget, identified those applicable items. I should point out, we have not tried to aggregate those in one section of the budget but, rather, have included them in each appropriate section of the budget.

Senator GARN. There was one instance in your January budget request which evidently included $25 million for long leadtime procurement items for the fifth shuttle. Yet the $25 million was not mentioned in your budget justification. Do you have an explanation for this omission?

Dr. LOVELACE. I thought it was, Senator Garn, but I would have to reexamine that. I thought we had mentioned it.

Senator GARN. Rather than pursuing this point now, I would like you to prepare for the record a list of all such programs, activities, and procurements over $10 million.

Dr. LOVELACE. We will certainly do that. If there has been an oversight on the fifth orbiter, we will certainly correct that. But I thought we had covered that.

[AGENCY NOTE.—The fifth orbiter long-lead procurement was mentioned, though not the specific amount, in the January budget justifications in the research and development summary section (p. SUM–3) and the Space Shuttle production section (pp. RD–1—20). In the budget amendment justifications, it is mentioned on pages RD–12, RD–14, and RD–40.]

Senator GARN. Well, you can include this activity in the list with the other activities I have requested you supply for the record.

Dr. LOVELACE. Yes, sir; we will.

[The information follows:]

In its report on the fiscal year 1981 appropriation, the committee requested NASA to modify its justification material to insure that all program activities and procurements costing $10 million or more are specifically identified in the justifications. The NASA research and development justifications provided to the committee in January 1981 were responsive to that request. Identification of the programs, activities, and procurements was integrated into the program descriptions provided in the budget justification books. The internal guidelines for developing this material provided that procurements with a total estimated cost of $10 million or more should be mentioned in each of the years to which that procurement is applicable. It should be recognized that there are not a large number of new procurements at this magnitude, but there are many actions which extend or incrementally fund previously initiated procurements. It should also be recognized that in many cases the exact mode of procurement for actions in fiscal year 1982 has not been determined. Many items are obtained by subcontracts for which the prime contractor rather than NASA implements the procurement. With these qualifications, the following is a list of major activities and procurements identified in the research and development budget justifications which are estimated at approximately $10 million or more.

Program Activity	Page in Budget Justification Book
Space Shuttle	
Design, Development, Test and Evaluation	
Orbiter	
Shuttle Orbiter Development	RD 1-7
Shuttle Software Development	RD 1-8
Shuttle Avionics Integration Lab Support	RD 1-8
Shuttle Remote Manipulator System	RD 1-8
Extravehicular Mobility Unit	RD 1-9
Manned Manuevering Unit	RD 1-9
Main Engine	
Shuttle Main Engine Development	RD 1-10
Propellants for Engine Test and Orbital Flight Tests	RD 1-11
External Tank	
Shuttle External Tank Development and Tanks for Orbital Flight Tests	RD 1-12
Solid Rocket Booster	
Shuttle Solid Rocket Booster System, Elements including recovery system, thrust vector control, attach structures, forward and aft skirt, separation motors	RD 1-14
Shuttle Solid Rocket Motor Development and Hardware for Orbital Flight Tests	RD 1-14
Launch and Landing	
Shuttle Launch and Landing Equipment and support including Launch Control Center equipment, Launch Processing System, related ground support systems and on-site launch support by Shuttle development contractors	RD 1-16
Production	
Orbiter	
Shuttle Orbiter Production	RD 1-20
Orbiter 099	RD 1-20
Orbiter 103	RD 1-20
Orbiter 104	RD 1-20
Orbiter 105 long-lead procurement	RD 1-20
Follow-on procurement of the Remote Manipulator System	RD 1-20
Closed Circuit Televisiion System	RD 1-21
Automatic Checkout Equipment	RD 1-21
Software Development Facility	RD 1-22

	Page in Budget Justification Book
Main Engine	
Shuttle Main Engine Production	RD 1-22
Launch and Landing	
Equipment for "second line" launch processing and check-out equipment at KSC, including launch control center, launch processing system and modification to second and third firing rooms	RD 1-24
Spares and Equipment	
Spares and equipment for flight hardware and ground support equipment, and for equipment including Life Support Systems and Extra-Vehicular Mobility Unit	RD 1-26
Rate Tooling for External Tank and Solid Rocket Motor and other SRB component production	RD 1-26
Space Flight Operations	
Space Transportation Systems (STS) Operations Capability Development	
Space Transportation System Upper Stages	RD 2-5
Inertial Upper Stage (IUS) Development	RD 2-6
Centaur Upper Stage Development	RD 2-6
Multimission and Payload Support Equipment	RD 2-7
Payload Transportation Equipment	
Payload Specialist Station Equipment and Mixed Cargo Support Equipment	
Flexible Multiplexer/Demultiplexer	
Cargo Integration and Test Equipment (CITE)	
Trace Gas Analyzer	
Mission Kits	
Mission Control Center Upgrading (Level II)	RD 2-9
Additional Flight Control and Support Rooms and related hardware and communication interface equipment	
Software Development	
Simulation network and dual launch site interface equipment and software	
Payload and Operations Support	RD 2-10
Computers and Displays for Payload Operations Control Center	
Communication links and associated software	
Development, Test and Mission Support	
Research and Test Support	RD 2-16
Technical, engineering, scientific, reliability, quality assurance, and safety support operations at Johnson Space Center and Marshall Space Flight Center	

	Page in Budget Justification Book
Data Systems and Flight Support	RD 2-17
Computer Center Support - JSC	
Operation of Mission Control Center - JSC	
Flight Support and Crew Training Activities - JSC	
Operations Support	RD 2-18
Maintenance and Operation Facilities - JSC, MSFC, and KSC	
Test Support at White Sands Test Facility	
Facility Support at National Space Technology Labs	
Launch Systems Support	RD 2-19
Maintenance and Operation of Launch Systems and Facilities - KSC	
Computer and Software Support	
Technical Services Support	
Spacelab	RD 2-22
In addition to procurement of one Spacelab and spares from the European Space Agency, U.S. procurements include:	
Flight and ground support equipment	
Crew transfer tunnel	
Verification Flight Instrumentation (includes sensors, electronic measuring, and monitoring devices; flight and ground support equipment to verify performance, and environmental monitoring devices for payloads.)	
Development and integration of software for a Spacelab simulator	
Space Transportation Systems Operations	
Shuttle Operations	RD 2-26
External Tanks for operational missions	
Solid Rocket motors and other solid rocket booster components for operational missions	
Replenishment spares for orbiter, main engines, crew equipment, ground systems.	
Analytical, engineering and operational support activities.	
Upper Stage Operations	RD 2-27
Procurement of two-stage Interim Upper Stage, Solid Spinning Upper Stage and Centaur Upper Stage hardware for Operational Missions	

PHYSICS AND ASTRONOMY	Page in Budget Justification Book
Space Telescope (ST) Development	
Spacecraft	
Optical Telescope Assembly	RD 4-10
Support Systems Module	RD 4-10
Primary Mirror	RD 4-10
Experiments and Scientific Instruments	RD 4-10
International Solar Polar Mission (ISPM) Development	
Spacecraft	RD 4-10
Experiments	RD 4-10
Ground Operations	RD 4-10
Gamma Ray Observatory (GRO) Development	
Spacecraft	RD 4-12
Experiments	RD 4-12
Ground Operations	RD 4-12
Shuttle/Spacelab Payload Development and Mission Management	
Spacelab mission management and integration	RD 4-15
Chemical Release Module (Cancelled)	RD 4-16
Solar Optical Telescope (Deferred)	RD 4-16
Shuttle Infrared Telescope Facility (Deferred)	RD 4-16
Explorer Development	
Dynamics Explorer (DE)	RD 4-16
Solar Mesosphere Explorer (SME)	RD 4-16
Infrared Astronomical Satellite (IRAS)	RD 4-16
Active Magnetospheric Particle Tracer Explorer (AMPTE)	RD 4-16
San Marco-D Explorers (SM-D)	RD 4-18
Mission Operations and Data Analysis (MO&DA)	RD 4-18
Space Telescope Science Institute	RD 4-18
Upgrading of Science and Applications Computer Center (GSFC)	RD 4-18

	Page in Budget Justification Book
PLANETARY EXPLORATION	
Galileo Development	
Spacecraft	RD 5-5
Experiments	RD 5-5
Ground Operations	RD 5-5
Venus Orbiting Imaging Radar (VOIR) Development	
Spacecraft	RD 5-6
Experiments	RD 5-6
Synthetic Aperature Radar	RD 5-8
Ground Operations	RD 5-6
Mission Operations and Data Analysis	
Planetary Flight Support	RD 5-8
Research and Analysis	
Halley's comet co-investigations and watch	RD 5-11
LIFE SCIENCES	
Life sciences flight experiments	RD 6-4
SPACE APPLICATIONS PROGRAM	
Resource Observations	
Landsat D	
Spacecraft systems and sensors	RD 7-11
Thematic Mapper	RD 7-14
Multispectral Scanner	RD 7-14
Multimission Module Spacecraft	RD 7-14
Ground System	RD 7-14
Ground Operations	RD 7-14
Shuttle/Spacelab payload development	
Large format camera	RD 7-18
Applied Research and Data Analysis	
Multilinear array advanced technology development	RD 7-22

	Page in Budget Justification Book
Environmental Observations	
Severe storms	
100 MIPS (Vector Processor)	RD 7-40
Shuttle/Spacelab Payload Development	
Atmospheric trace molecules observed by spectroscopy (ATMOS)	RD 7-41
Operational Satellite Improvement Program	
Scanning Backscatter Ultraviolet (SBUVII)	RD 7-43
Earth Radiation Budget Experiment	
Spacecraft	RD 7-44
Sensors	RD 7-44
Ground Operations	RD 7-44
Halogen Occultation Experiment	
Sensor development	RD 7-46
Upper Atmoshpere Research Satellite Experiments and Mission Definition	RD 7-51
Materials Processing in Space	
Shuttle/Spacelab payload development	
Solidification experiments systems	RD 7-64
Communications and Information Systems	
Search and rescue mission	RD 7-66
AERONAUTICAL RESEARCH AND TECHNOLOGY	
Systems Technology Programs	
High Speed systems technology	
Highly Maneuverable Aircraft Technology	RD 9-33
Transport aircraft systems technology	
Energy Efficient Transport	RD 9-35
Composite Primary Aircraft Structures	RD 9-35
Advanced propulsion systems technology	
Energy Efficient Engine	
Component Development and Integration	RD 9-37
Advanced Turboprop Systems	RD 9-38

TRACKING AND DATA ACQUISITION

	Page in Budget Justification Book
Network Operations	
Spaceflight Tracking and Data Network Operations	
Maintenance and Operations of stations	RD 12-6
Australian Contract	RD 12-6
Spain Contract	RD 12-6
Software procurements	RD 12-6
Logistics procurements	RD 12-6
University of Chili for the Santiago Station	RD 12-6
Deep Space Network	
Maintenance and operations of network facilities, control center and engineering effort for DSN operations	RD 12-8
Spain Contract	RD 12-8
Australian Contract	RD 12-8
Data Processing Operations	
Goddard Space Flight Center Data Processing facilities maintenance and operations	RD 12-12
Software contracts	RD 12-12
Systems Implementation	
Space Flight Tracking and Data Network Systems Implementation	
Software contracts	RD 12-15
Space Telescope Implementation	RD 12-15
Deep Space Network	
Network consolidation, spacecraft acquisition and tracking, modifications at the Network Control Center, for scheduing, overall coordination of the network activities	RD 12-18
Data Processing Systems Implementation	
Computer replacements GSFC	RD 12-21

FISCAL YEAR 1981 RESCISSION BUDGET REQUEST

Senator GARN. For fiscal year 1981, you have submitted a rescission request of $4.5 million. This rescission actually represents $74.5 million in changes with $64.5 million coming from 12 space science and application programs. Of this amount, $4.5 million would be rescinded and $60 million transferred to the Shuttle program.

I understand that during your negotiations with OMB you had a choice of having this $60 million rescinded or applying it to the Shuttle program. Is that correct?

Dr. LOVELACE. Let me take just a second, Senator Garn, to explain the process we went through, because I have some difficulty answering in a "yes" or "no" fashion to that question.

As you may recall, we entered into discussions with the OMB regarding the amended fiscal year 1982 Reagan budget. As a result of being assigned certain budget targets for constructing or reconstructing a program to fit within those budgets, we made certain decisions and were given certain guidance, such as no new initiatives in 1981, 1982, and so forth. When one took all of those into consideration and structured the fiscal year 1982 budget, there was an impact on the fiscal year 1981 budget. That impact was of the nature of the $74.5 million.

At the same time, as a part of that guidance on the fiscal year 1982 budget, we were requested to insure that the Shuttle development and production and operational schedules were maintained, particularly those that supported the critical national security requirements. We worked with the Department of Defense on that. At the conclusion, OMB and NASA concluded that it would be important to reprogram $60 million to insure the completion of the orbital flight testing portion of the program and to maintain the production schedules associated with external tanks, solid rocket boosters, and the future orbiters. Our assessment at the time was that it would require $60 million. That is how the reprograming in 1981 was determined.

Senator GARN. If the $60 million had not gone to the Space Shuttle, would these funds have been rescinded or used for other programs?

Dr. LOVELACE. I expect that the funds would have just been rescinded.

IMPACT OF NO FISCAL YEAR 1982 FUNDS FOR LONG-LEAD ITEMS

Senator GARN. Your fiscal year 1982 budget request contains $5 million for the procurement of long leadtime items. This is a $20 million reduction from the original fiscal year 1982 request. There are obviously programmatic and scheduling differences associated with these two different funding levels. What would be the impact if no funds were provided in 1982 for this purpose?

Dr. LOVELACE. We have reduced the long-lead request for the fifth orbiter from $25 million to $5 million. The $5 million represents only a placeholder for the fifth orbiter. It will allow us to sustain some of our subcontractor base. To reduce that to zero could leave us vulnerable to having to come back later and requalify subcontractors and vendors to support the production of the fifth or more orbiters. Even with $25 million, you are probably talking about an 18-month to 2-year gap between the delivery of Orbiter 104 and Orbiter 105. I really am not sure whether $5 million increases that gap much, or would calibrate the orbiter sufficiently.

TWO FLEETS OF SPACE SHUTTLES

Senator GARN. Senator Schmitt has suggested we should have two fleets of Space Shuttles—a military fleet and a civilian fleet. What are your views on the desirability of such a plan?

Dr. LOVELACE. I think that as the Department of Defense's utilization of the Shuttle transportation capability grows and as we get a sufficiently large fleet—that is, probably six to seven orbiters—that may very well be a sensible thing to do. We would dedicate three or four orbiters to meeting civilian requirements and the remainder to meeting military requirements, thus setting up two operational capabilities.

It does not, from a purely operational standpoint, make much sense to establish such a system now when one only has four operational orbiters. That is a fairly small fleet to orchestrate in an operational sense, even as a single unit. But when you begin to divide it in two, it strikes me as probably not being a sensible thing to do.

Senator GARN. Have you discussed this possibility with the Air Force?

Dr. LOVELACE. I have had some very qualitative discussions with the senior people in the Air Force over the last several years. But I do not think it is fair to say that we have really had any quantitative discussions with them recently.

One of the things we really need is the experience of more launches to determine the operability and the importance in the turnaround time. But that is only one factor.

Senator GARN. You stated that six to seven orbiters will supply most of the user needs during the eighties.

Dr. LOVELACE. I think it will, as we foresee it, Senator Garn. Frankly, I believe that a fleet of four orbiters is too small to see us through the next 10 years. I am concerned that that really does not allow us much flexibility to take an orbiter off the line, refurbish it, and do the general maintenance on it that is going to be required. That fact, plus my view that we are going to see a much-increased utilization of this capability than can now be projected, will cause the number of orbiters to be increased. I would say a fleet of six or seven orbiters is probably what the country is really going to require in this decade and into the very early part of the nineties.

MULTIPLE-BUY SAVINGS ON SHUTTLES

Senator GARN. Current estimates indicate that additional, beyond the initial four orbiters, will cost aout $1.1 billion each. What cost savings could be achieved if we entered into a multiple-buy contract?

Dr. LOVELACE. There have been some examinations by Rockwell of buying four additional orbiters as a package deal that would probably save about $800 million. But about half of that is really avoidance of inflation. We were projecting what the inflation rates might be during that time period. Obviously, if you buy the orbiters early, you avoid the possibility of the inflation impact. So there might be approximately $300 to $400 million in savings on a four-orbiter buy.

Senator GARN. Do you have estimates of the split, percentagewise, between military, commercial, and NASA uses of the Shuttle?

Dr. LOVELACE. I am going to ask Dr. Weiss to respond to that. I gather your question relates, Senator, to the out-year use, say the next 10 years, not the very short range.

Senator GARN. That is correct.

Dr. LOVELACE. We don't have very quantitative data on that.

Dr. WEISS. Senator Garn, our estimate right now, which we built into our projection for the next 12-year usage, involves just about one-third usage each by NASA and other civilian Government agencies, one-third for defense usage, and about a third for commercial and foreign communications satellites. In the nearer term—that is over the first 3 full fiscal years of operation—that generally holds. We expect that model to continue.

Senator GARN. Thank you very much.

Senator Proxmire?

Senator PROXMIRE. Senator Garn asked, Dr. Lovelace, why you shouldn't have a military fleet as well as a nonmilitary fleet. You responded that it would be desirable, perhaps. In that event, why shouldn't it be funded through the DOD budget? Why shouldn't DOD pay for it?

Dr. LOVELACE. I think that it could be, Senator Proxmire. We have had discussions on this point in past years. You may also recall that we have taken a position that the funding through NASA on the development phase was the more sensible way to go. I still believe that the way we proceeded with the single-agency funding under NASA was the right way to undertake this complex development.

Now, if you are talking about buying a block of three or four more orbiters, as Senator Garn mentioned, it could very well be procured and appropriated in other accounts—the Department of Defense, for example, or NASA. I think that is an option.

Senator PROXMIRE. That seems to me to be by far the most logical thing to do. After all, the Shuttle should compete on the basis of military priorities with other things. In the event the Defense Department can't justify it, then we shouldn't do it. If they can justify it, we should, on the basis of the Shuttle's military value.

Dr. LOVELACE. I think that very well could be the case. We need to complete the development to make certain that we have a system that is stable, because then that allows us to more accurately project what the production costs will be. So, I think at that time that is an option to be considered.

SHUTTLE TURNAROUND TIME

Senator PROXMIRE. NASA's original 1969 turnaround time allocation was 160 hours. Dr. Frosch, in his 1978 testimony, said that the best time expected in steady state operations was 200 hours. Apparently the current turnaround time assessment is 384 hours, more than double the original estimate. What impact will a 384-hour turnaround time have on the cost of operations, the annual launch rate capability, and the 12-year traffic model?

Dr. LOVELACE. I am going to have to ask Dr. Weiss if he has those answers with him. If not, we will try and provide them for the record, Senator Proxmire.

Dr. WEISS. I do not have the impact on cost. However, the projections you speak of are an ongoing assessment. The targets that we are setting for our operational activities for our contractors and centers who are responsible are still down in the 280-hour range. For our current assessment, we are actually using costs at 260 to 280 hours. We fully expect to get down to that level.

Senator PROXMIRE. I have a sheet here issued by your agency on February 26 which says launch will be at 384.0 hours..

Dr. WEISS. It is a question of a point in time in which you achieve it. We are looking at this 200- to 260-hour range somewhere around 1986.

Senator PROXMIRE. What effect do you think this will have on the 12-year traffic model? I didn't get an answer to that part of my question.

Dr. WEISS. We have built in an estimate of an average of approximately 380 hours in the first 3 to 4 years of flight operations. In fact, we expect to start out at a level of about 500 hours, and that is included in our traffic model assessment.

Senator PROXMIRE. You still think you are going to be able to make the number of flights set forth in your current traffic model; is that right?

Dr. WEISS. Yes. Certainly the near-term traffic model has been decreased, as Dr. Lovelace commented. We expect to expand it out to the 40- to 50-flights a year range.

Dr. LOVELACE. Senator Proxmire, if I may interject, the early turnaround estimates in this first 5-year period do not represent the steady state turnaround capability in the out-years. As I was accurately quoted in the Aerospace Daily that you cited, I think it is going to take the first 5 years of experience to really begin to get that in hand to make those estimates more credible.

Senator PROXMIRE. Then you will have 7 years to catch up; is that right?

Dr. LOVELACE. Catch up in terms of what?

Senator PROXMIRE. To fulfill your 12-year traffic model.

Dr. LOVELACE. Yes. And I think the 12-year figure, as you know, was selected to give us a sufficient period of time to get into a steady state of operations.

INCREASE IN SHUTTLE OPERATIONS COSTS

Senator PROXMIRE. The Johnson Space Center's projected Shuttle operations costs increased 32 percent between the user charge data base established in 1976 and the program operating plan 80–2 submission. The increase is largely due to an increase in JSC manpower requirements from 3,523 to 5,071 personnel. Of the 1,548 increase, 699 are civil service employees and the remainder are contractor personnel.

JSC's justification for part of the increase in civil service manpower requirements was a lack of major new program starts.

How can JSC legitimately transfer civil service personnel to Shuttle operations just because there are no other programs for them to work on?

Dr. LOVELACE. Senator Proxmire, your staff has obviously read those 80–2 inputs from centers. I have not read them.

Stan, I must defer to you, if you know what that document is. I guess it is the POP submission. I have not read that.

Dr. WEISS. Yes, it is.

Senator PROXMIRE. I will have my staff show that to you. The document is right here.

Dr. LOVELACE. I am sure it exists. I am sure that we have all of those submissions from all of the centers. However, it does not represent the agency's approved plan. It is an input from a center to my staff. I have not read it.

Senator PROXMIRE. I hope it doesn't mean what I have interpreted it to mean. That is why I wanted an explanation. Does it mean that when you have nothing else for these people to do, you just toss them on the Shuttle project and justify them there?

Dr. LOVELACE. No, sir; I don't do that.

Senator PROXMIRE. For the record, perhaps you can give us an explanation.

Dr. LOVELACE. We will certainly do that.

[The information follows:]

INCREASED MANPOWER REQUIREMENTS

Johnson Space Center has provided recent estimates that indicate increased manpower requirements for Shuttle operations in the future (fiscal year 1986 time frame). The reasons for these increases are: added configuration requirements for the vehicle/software simulations; the need to offset projected reductions in institutional support base; and increased allocation of indirect support. The reallocation of indirect support, which was caused by the lack of new starts, is a valid basis for adjusting the civil service personnel charges to the Shuttle operations. In earlier estimates, JSC allocated indirect support by projecting new starts in the future which absorbed a share of their fixed costs. Currently, in view of revised projections for new starts, the Shuttle operations will be required to absorb a larger share of these costs.

You should be aware that the JSC estimates represent center input which have not been accepted for an agency plan. Our intent is to hold civil service manpower applied on Shuttle operations to the minimum level consistent with safe and effective operations.

SHUTTLE MANIFEST THROUGH 1985

Senator PROXMIRE. Apparently NASA is currently in the process of revising its Shuttle flight manifest and reportedly will reduce the number of flights planned through fiscal year 1985 from the original 44 to between 26 and 36, a reduction of between 18 and 41 percent. Can you give us a rough idea of how many missions you currently expect the Shuttle to fly through fiscal year 1985 and what this does to the economics of the Shuttle compared to expendable launch vehicles?

Dr. LOVELACE. We are still very carefully examining the flight manifest through 1985, Senator. But I think we will probably come down to the level of 34 flights from an original forecast of 48 flights. Seven of these, incidentally, will be a result of seven payloads that have been removed from the NASA budget during the fiscal year 1982 budget amendments.

Senator PROXMIRE. What does that do to the comparison of economics of the Shuttle with expendable launch vehicles?

Dr. LOVELACE. In the early years, it really does not, in a sense, affect the economics to the user because we have been working on a fixed price to the user.

Senator PROXMIRE. What I am concerned about is the economics to the taxpayer. There is a respectable group of scientists and others who feel it was a mistake to proceed with the Shuttle when you did. I would like to be able to get as much documentation as possible. You may well be right. You certainly have the main body of public opinion and the Congress and the President all behind you. But I would like to get as much accurate documentation on that point as possible.

Dr. LOVELACE. I will try to provide for the record an analysis of that. Clearly, you have to get the flight rates up in the out-years to begin to get an economic model or to achieve the economic traffic model that we have tracked for, I guess, over 7 years now.

[The information follows:]

NASA is reevaluating the total STS flight mission model. Until this evaluation is complete, the total number of anticipated flights through the end of the mission model will not be known. In conjunction with the mission model analysis, NASA is conducting a reassessment of the 12-year cost recovery period. This is being done to assess the impact of extending the period of time in which NASA would recover total STS operating costs. Information on the revised cost per flight will be furnished after these analyses are complete.

SPACE SHUTTLE DESIGN LIFE

Senator PROXMIRE. Is it true that in the user fee computation NASA depreciated each orbiter over 500 flights, although the development contract specification specified a 100-flight life?

Dr. LOVELACE. I think that is correct.

Senator PROXMIRE. Why wasn't the contract life of 100 flights used for the fee computation?

Dr. LOVELACE. I am not aware of any life limitation on the air frame of the vehicle.

Senator PROXMIRE. Which is correct, 500 flights or 100 flights?

Dr. LOVELACE. Five hundred flights is what it was based on, Senator Proxmire.

Senator PROXMIRE. The design life specs are, and I will read them, "Each orbiter vehicle shall be capable of performing 100 orbital missions, including ground turnaround operations," et cetera. That, again, is your own data on orbiter operating life.

Dr. LOVELACE. I am sorry; what is the question associated with that?

Senator PROXMIRE. The question was, why wasn't the contract life of 100 flights used in setting the user fees? If you use 500 flights, the fee is less and the taxpayer foots the bill. That part of the fee would be $1 million, compared to $5 million if you are truly going to have the orbiter costs covered by the user.

Dr. LOVELACE. I guess I am having difficulty equating the fact that we selected 500 flights with the fact that the orbiter is designed to be able to accomplish 100.

Senator PROXMIRE. In computing the fees, you assumed the orbiter would accomplish 500 flights. Now we find it would accomplish 100 flights.

Dr. LOVELACE. No. I think that——

Senator GARN. Dr. Lovelace, if you will excuse me, I interpret the language just quoted by Senator Proxmire to mean that each orbiter vehicle is designed to accomplish a minimum of 100 flights. That is a minimum, not maximum.

Dr. LOVELACE. That was a goal that we established for the design of the orbiter. I do not think that anybody believed that we would discard the orbiter at the end of 100 flights.

Senator GARN. When the DC-3 was designed in 1935, no one planned that the plane would still be flying in 1981. I don't mean to be facetious at all, but the DC-3 was supposed to meet the specifications to fly at least 100 missions. I don't know whether 500 flights is a correct calculation for each orbiter vehicle, but the user fees would not necessarily be computed on the basis of the minimum number of flights estimated for each orbiter. In fact, our B-52's are flying far beyond their original design specifications.

Senator PROXMIRE. I think the chairman makes a very good point. My only argument is whether it is wise to assume an operating life five times greater than the design life, which is 100 orbital missions. Why did you chose a 500-flight life under those circumstances?

Dr. LOVELACE. We tried to pick a number, in our judgment, Senator Proxmire, that represented a potentially real operational scene. The fact that the engineering design requirements specified a minimum of 100 flights does not mean that that is the end of the useful life of the vehicle. In fact, the computations we are talking about included overhaul and refurbishment and maintenance of the vehicle.

Senator PROXMIRE. Your best estimate then is that you would get 500 flights from each orbiter.

Dr. LOVELACE. I guess. That is as good an estimate as can be made. Nobody was able to estimate how long we were going to use the B-52 or how many flights we would get on it. I am sure we got a substantially larger number of flights from those vehicles than we had projected in the basic design requirements.

Senator GARN. Don't use the C-5A as an example. [Laughter.]

Dr. LOVELACE. I do not use that as an example.

Senator PROXMIRE. These are custommade vehicles. They are not like a tried and true plane that we have had all kinds of experience with.

Thank you, Mr. Chairman.

Senator GARN. Dr. Lovelace, there is a vote on the Senate floor, so the subcommittee will recess for 15 minutes while Senator Proxmire and I go vote.

Dr. LOVELACE. OK.

[A brief recess was taken.]

M'KINSEY REPORT—MANAGEMENT OF SHUTTLE OPERATIONS

Senator GARN. I apologize for the long delay. We had two votes in a row.

Dr. Lovelace, in your opening statement, you note that:

> The successful first flight of the Shuttle last month marks the beginning of a new era in space. We now face the challenge of completing the development program and moving into operational use of the space transportation system in such a way that we fully exploit its unique capabilities.

I certainly agree with your statement. We need to plan now in order to assure that we have an efficient Shuttle operation.

In this regard, I would like to get your views on the findings of the McKinsey report on the management of Shuttle operations.

The report raises some questions as to Johnson Space Flight Center's management approach in evolving from what is now basically design and development to less technical activities concerning the routine operations of the Shuttle, such as flight schedules, user services, et cetera. Apparently, JSC is planning a relatively brief and sharp transition from design and development to routine activities. The report concludes that a long and gradual transition is essential in order to get all systems in place and operating for routine operations.

There are about three or four pages of detailed questions on this subject. Rather than asking the questions at this point, I am going to submit them to you for response in the record.

Dr. LOVELACE. Yes, Senator Garn. That report is one of several reports that we have obtained and studies we have accomplished over the last several years, both at KSC and at headquarters, trying to project ourselves into that operational era. I think our intention is to assess the Booz-Allen report, the McKinsey report, and the others with an eye toward structuring in all aspects to go into this operational era of the space transportation system.

We would be glad to respond to any questions that you have on the McKinsey report.

Senator GARN. Thank you very much.

SPACE-BASED ABM SYSTEM

On April 24 of this year, I joined with six other Senators in suggesting that NASA and DOD should study the desirability, possibility, and costs associated with the development of a space-based antiballistic missile laser system. Could you share with me any thoughts you have on this issue?

Dr. LOVELACE. Senator Garn, we have indicated to the Air Force that we stand ready, of course, to cooperate on a joint examination of how the Shuttle might provide for support of such a system. At this point—and this is a personal observation—I do not really see NASA in the laser weapons development business. Possibly, that is not even the intent to be implied by the questions that you and your colleagues have raised. However, I think we can work with the Air Force and are ready to do that. We have not, at this time, been contacted by the Air Force to schedule completion of that study. I expect we will shortly.

Senator GARN. Will it be possible for those of us who signed the letter to get a briefing on the issues we raised in the letter?

Dr. LOVELACE. The response to your letter is being prepared right now. In that response, we will try to satisfy your requirements. Then if a discussion or briefing would be in order, we would be prepared to do that.

Senator GARN. Before we go to the movie, I would like to compliment you on your work at NASA. This is your last appearance before the committee. Although I have only been on this particular subcommittee this year, I have had the opportunity to work with you for some time in other areas. I want to compliment you most highly for what I consider a great contribution, not only to NASA but to our country; and my personal respect for not only your technical work but for the professional manner in which you have always presented yourself. Whatever you do, I wish you well.

Dr. LOVELACE. Thank you, Senator Garn. I would like to congratulate you on your new chairmanship. I think it bodes well to your stewardship. The agency, I am sure, will fare well in the future.

IMPACT OF OVERALL BUDGET CUTS ON NASA PROGRAMS

Senator GARN. Well, if we weren't under the restraints of attempting to get the entire Federal budget under control, I guarantee, with my bias, the agency would be faring a lot better this year than it is. However, I have had to take cuts in a lot of programs that I like in order to get the budget under control. We simply can't just take cuts in programs we don't like or the whole castle of cards falls down. I have even had to take a cut in a program which will impact on a central Utah water project, which is the most sacred cow of any Federal expenditure within our State. When you are talking about water in the second most arid State in the country, it takes either a lot of courage or a lot of stupidity to stand up and tell your State you are going to take the President's recommendation.

I have had to restrain myself in what I would like to have provided for NASA. My bias of the agency stems not only from my own aeronautical experience, but from serving, during my first 2 years in the Senate, on the Space Committee.

I wish more agencies could return to the taxpayer, or the economy in general, the amount of dollars which NASA returns. Most agencies have a negative impact on the economy. In addition, I wish the American people understood the importance of NASA's programs on the economy and their day-to-day lives.

So I will be a friend of NASA, but within the restraints of trying to get the entire Federal budget under control.

Dr. LOVELACE. I think, we would concur with you. If we do not get the inflation under control, we will not be able to afford to do any of the things we have discussed. That is the first order of business.

Senator GARN. Just remember, I hope you have room sometime for the 800-pound gorilla. [Laughter.]

Dr. LOVELACE. Yes, sir.

Senator GARN. Now if we could turn to the movie.

Dr. LOVELACE. Yes, sir.

The movie is a 17-minute film of footage taken from within the orbiter and without and is commentated by John Young and Bob Crippen. If there are any questions raised, Mike Weeks and I will try to answer those.

[The film presentation followed.]

Dr. LOVELACE. Mr. Chairman, if there are any questions you might have about either the film or the first flight of Columbia, Mike Weeks and I would be glad to try to answer them.

Senator GARN. Just one. When? [Laughter.] You just whetted my appetite more. [Laughter.]

Dr. LOVELACE. I was afraid to show you that picture, Senator.

Senator GARN. You really shouldn't have. I will step up my lobbying activities. [Laughter.] Very fine film; very interesting.

I appreciate your testimony today.

SUBMITTED QUESTIONS

Dr. Lovelace, I have a large number of additional questions. I would like to submit these questions, along with questions from Senators Schmitt, Huddleston, and Proxmire, for response in the record.

[The following questions were not asked at the hearing but were submitted to the Administration for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR GARN

CHANGES TO CARTER BASE

Question: Please provide for the record a brief description of each of the changes, of over $1 million, made to the FY 1982 Carter budget and the expected programmatic impact of those changes.

Answer: The change to the FY 1982 Carter budget is a reduction of $604 million in budget authority. The detail of this reduction and the impact is provided below.

Summary of FY 1982 Budget Amendment Items
(Millions of Dollars)

Space Transportation Systems	-168
Reduce long lead procurement for Space Shuttle 5th orbiter	-20
Delay delivery of Shuttle Orbital Maneuvering System Payload Bay Kit one year	-16
Discontinue three-stage Inertial Upper Stage development and procurement and replace it with Centaur upper stage	-13
Cancel development of Solar Electric Propulsion System	-18
Reduce Advanced Programs studies	-2
Delay readiness for Spacelab missions	-30
Reduce the rate of buildup of Shuttle flight missions during the early operational period	-69
Space Science	-173
Defer Venus Orbiting Imaging Radar mission by approximately 19 months	-30
Cancel the U.S. spacecraft for the International Solar Polar Mission, but provides a 1986 launch opportunity for European Space Agency spacecraft	-53
Delay development of physics and astronomy and life sciences payloads for Spacelab missions	-19
Delay development of the Gamma Ray Observatory two years	-44
Reduce research and analysis activities	-15
Defer mission operations and data analysis activities	-12
Space and Terrestrial Applications	-110
Cancel development of the interagency National Oceanic Satellite System and delete related research	-41
Delay development of instruments for Upper Atmospheric Research Satellites	-15
Delete planned Geological Applications Program initiative	-10
Reduce effort on application of remote sensing to agricultural forecasting	-10
Phase out Technology Transfer and Technology Utilization programs	-19
Cancel operational evaluation phase of Search and Rescue project	-4
Reduce research and development effort on Materials Processing in Space	-4
Reduce growth of Geodynamics program	-1
Delay operational satellite systems study	-2
Reduce buildup in Spacelab experiment development	-2
Other reductions less than $1 million	-2

Aeronautics and Space Research and Technology	-79
Eliminate development of Numerical Aerodynamic Simulator	-16
Decrease effort for research in alternative fuels and conservation of strategic metals	-3
Terminate the Materials for Advanced Turbine Engine program	-3
Terminate current V/STOL systems technology activity	-8
Cancel Supersonic Cruise Research program	-12
Cancel initiative for Large Composite Primary Structures	-4
Cancel Variable Cycle Engine program	-10
Decrease effort on Energy Efficient Engine	-3
Reduce Space research and technology base growth	-10
Defer space systems studies	-2
Reduce information systems technology effort	-2
Reduce spacecraft systems technology effort	-2
Cancel energy technology program	-4
Tracking and Data Acquisition	-20
Reduce operations support	-4
Delay equipment purchases and support for deferred projects	-16
Construction of Facilities	-32
Delete construction of small engine component facility	-10
Delete modifications to the transonic dynamics tunnel	-8
Delete modifications to the Mach 19 nitrogen tunnel	-2
Delete modifications for Solar Electric Propulsion System testing	-1
Delay decommissioning of Plum Brook reactor	-1
Defer modifications to Goddard utility systems	-3
Projects less than $1 million	-7
Research and Program Management	-22
Reduce permanent civil service staffing 840 below the previously planned level of 22,713	-21
Reduce travel of civil service personnel	-1

FY 1982 BUDGET REVISIONS

Question: The recent budget revisions for NASA resulted in a decrease of $604 million in your FY 82 budget. If the Congress were to restore some or all of these funds, what would be NASA's priority?

Answer: The budget amendment process involved a major reduction, was conducted in a short time, and was conducted within a set of specific policy groundrules. The dollar ceilings were assigned to the Agency as fixed amounts without opportunity for appeal, and were accompanied by basic policy guidance. The essential elements of this guidance were as follows:

1. The Space Shuttle program and essential support would not be impacted.

2. FY 1981 and FY 1982 initiatives were to be cancelled or delayed.

3. Activities involving near-term technology demonstration and transfer were to be phased down; most technology transfer activities were to be discontinued, and

4. Civil Service staffing was to be reduced by 840 positions by September 30, 1981.

The magnitude of the reductions, the accompanying program guidance, and the short time available for developing a revised program limited the possible range for consideration of program alternatives and individual project priorities. Rather it was necessary to assess the total Agency program objectives and status and to attempt to preserve a cohesive balance in existing program activities as well as future technology and development capabilities.

Any consideration of priorities for restoration would have to take into account the general guidelines, the overall program balance, and the impact on future year funding requirements. NASA has not developed a list of priorities for possible restoration. The amended budget reflects our best judgment of priorities within the overall funding levels.

The Senate Committee on Commerce, Science, and Transportation has recommended additions to the amended budget which would:

- Provide for continued technology effort on the Solar Electric Propulsion System.
- Provide additional funding for development of experiments to be flown on future Spacelab missions.
- Provide for earlier development of instruments for a future Upper Atmospheric Research Satellite system.
- Continue activities in Technology Transfer and Technology Utilization.
- Provide for extension of the Search and Rescue experiment into an operational evaluation phase.
- Provide additional funding for development of materials processing payloads for flight on Spacelab missions.
- Augment the space research and technology base effort to meet our future space program needs.
- Significantly augment the aeronautical research and technology program to increase emphasis in a number of areas of technology.

The Senate Committee report also requests that NASA fully examine the options for a two spacecraft International Solar Polar Mission.

These actions all involve important program areas which are appropriate to receive priority emphasis for consideration in the event that increased funding above the amended budget was available. NASA appreciates the confidence in and importance placed on the Agency's potential contributions which the proposed increases represent. However, NASA does not recommend the increases or believe that they are appropriate at this time when a major effort is underway to reduce Federal expenditures as a part of meeting important economic recovery objectives.

PROGRAMMATIC INCREASES

Question: Please provide a description of each program or activity that is slated to be increased by $1 million or more over its adjusted FY 1981 base. Also provide a rationale for the increase.

Answer: From the adjusted FY 1981 operation plan base transmitted in January, the only increase is the $60 million proposed reprogramming to Space Shuttle Changes and Systems Upgrading. The $60 million will be applied to meet requirements within the Shuttle Design, Development, Test and Evaluation and Shuttle Production areas.

AUTHORIZING COMMITTEE ACTION

Question: Recently both your House and Senate Committees completed action on your FY 1982 authorizing legislation. Could you highlight the changes that have been made by each body to your FY 1982 request?

Answer: See Table A attached.

SUPPLEMENTAL

Question: The Administration has recommended FY 1981 reductions of $74.5 million in 13 activities. If the Congress were to restore some or all of these funds, what would be NASA's priority?

Answer: The same general program considerations would apply to FY 1981 as to FY 1982. The conference report on Public Law 97-12 indicates the intent that NASA should apply additional funding to Technology Utilization, to continuation of technology development for a future Solar Electric Propulsion System, and to retaining the option for a fully instrumented U.S. spacecraft for the International Solar Polar Mission.

SPACE SHUTTLE THERMAL PROTECTION SYSTEM (TPS)

Question: A review of the flight data indicates that the Shuttle's tiles experienced temperature levels much lower than expected. How do you account for this difference? Does this imply that the TPS is over designed or will be modified in future orbiters?

Answer: The first flight was not intended to demonstrate maximum thermal capability. The trajectory was chosen to minimize structural temperatures, the payload was small, the center of gravity was selected for best heating, and no cross-range capability was demonstrated.

The flight data is still being studied so that actual margins have not been determined. Prior to launch the maximum predicted temperatures for the tile surfaces were based on worse case assumptions and not on nominal flight parameters. The STS-1 flight was a very nominal mission and the actual recorded tile surface temperatures were lower than the predicted worse case preflight

Summary of Congressional Action On FY 1982 Authorization Bill

(Millions of Dollars)

	FY 1982 Amended Budget Request		House Authorization Action			Senate Authorization Action	
Space Shuttle	2194.0	-60.0	Changes & Systems Upgrading	2134.0	-5.0	Delete 5th orbiter lead time procurement	2189.0
Space Flight Operations	910.9	-7.0		903.9	+4.0		914.9
		-7.0	Operations Capability Development Upper Stages				
		+8.0	Solar Electric Propulsion System		+4.0	Solar Electric Propulsion System	
		+5.0	Advanced Programs				
		-13.0	STS Operations - Upper Stages				
Expendable Launch Vehicles	31.2		No change	31.2		No change	31.2
Physics And Astronomy	325.4	+25.0		350.4	+8.0		333.4
		+15.0	International Solar Polar Mission				
		+10.0	Spacelab Payload Development	*	+8.0	Space Payload Development	
Planetary Exploration	215.3	+5.0	Halley's Comet Option	215.2			
		-5.1	Galileo				
Life Sciences	43.5	+5.7	Adopt Carter Request	49.2			43.5
Space Applications	372.9	+10.0	Geological Applications	410.9			398.6
		+10.0	Upper Atmospheric Research Satellite Experiment		+10.0	Upper Atmospheric Research Satellite Experiment	
		+9.0	Technology Transfer		+8.0	Technology Transfer	
		+4.0	Materials Processing		+4.0	Materials Processing	
		+5.0	Comm and Info/Search & Rescue		+3.7	Search & Rescue	
Technology Utilization	4.6	+8.0		12.6	+8.0		12.6
Aeronautical Research and Technology	264.8	+3.0	Alternate Fuels	276.0	+51.2		316.0
		+4.0	Large Composite A/C Structures				
		+12.0	Supersonic Cruise Research				
		+12.0	Prop Fan Technology				
		-19.8	Laminar Flow and R&T Base				
Space Research and Technology	125.3	+2.0	Advanced Chemical Propulsion	129.3	+5.0	Unspecified	130.3
		+2.0	Information Systems				
Energy Technology	--	+2.0		2.0	--		
Tracking and Data	415.2	-15.0	Operations	400.2	--		415.2
Total Research and Development	4903.1	+11.8		4914.9	+96.9		5000.0
Research and Program Management	1114.3	--		1114.3	+3.8	aero R&T base	1118.1
Construction of Facilities	104.8	-.7	NSTL	104.1	---		104.8
Total NASA	6122.2	+11.1		6133.3	+100.7		6222.9

TABLE A

values. On an average, the tile surface temperatures were between 250-550° F less than predicted. Just aft of the nose cap the tile surface temperatures were approximately 1900° F vs the worse case predicted of 2450° F. On the body flap the tile surface temperatures were approximately 2300° F vs the worse case predicted of 2550° F.

The maximum actual vehicle metallic surface temperature experienced was approximately 200° F. The surface temperature prior to entry was 0° F; therefore, the resulting temperature rise was 200° F. This was the temperature increase experienced during entry on a nominal mission, which is less stringent than the vehicle's design mission. The design mission case is expected to be about 100° F more stringent than the nominal. Therefore, the structure could experience temperatures about 300° F on future flights. We will continue to study the STS-1 data and data from subsequent flights. Based on this analysis, it may be possible for weight reductions in the thermal protection system (on the orbiter, external tank, and solid rocket booster) at a later date.

SHUTTLE - COST EFFECTIVENESS

Question: Do you believe that the Shuttle represents the most cost effective methods of launching unmanned space payloads typical of those previously launched for scientific and applications purposes?

Answer: The Space Shuttle will provide the following unique capabilities for science and applications missions: (1) checkout of spacecraft before and after deployment; (2) retrievability; (3) manned experimentation capability, and (4) competitive launch cost. All of the above are effective methods for launch and servicing of science and applications mission.

Question: I understand that the number of yearly launches has been revised downward from your earlier estimate of 48 to 34-36. This change is the result of current problems in production of external tanks. Could you describe the geniuses of this problem and indicate what can be done to increase the number of launched per year?

I understand that you may have to rearrange the manifest and delay certain payloads. What priorities have you established relative to military, commercial, and NASA payloads--who will get "bumped"?

What cost implications will the reduced number of launches have on the cost per launch and the relative economic advantage of the Shuttle over expendables?

What is the break even point?

Answer: The early Shuttle users have been planning and developing their payloads for several years. Should additional serious users materialize, we will be able to accommodate them beginning in 1986. Prior to that time, the manifest is generally saturated with priorities for space being set on the basis of the following:

a. DOD payloads requiring urgent STS support to establish and/or maintain national security capabilities.

b. Significant science and technology mission and/or missions with critical launch window constraints, and missions required for the establishment and maintenance of the space transporation system.

c. All other payloads.

NASA is reevaluating the total STS Flight Mission Model. Until this evaluation is complete, the total number of anticipated flights through the end of the mission model will not be known. In conjunction with the mission model analysis, NASA is conducting a reassessment of the 12-year cost recovery period. This is being done to assess the impact of extending the period of time in which NASA would recover total STS operating costs. Information on the revised cost per flight will be furnished after these analyses are complete.

INERTIAL UPPER STAGE (IUS)

Question: Due to the schedule delays and cost escalation of the NASA funded three-stage IUS, NASA has terminated funding for this IUS and recommended the wide-bodied Centaur as the planetary upper stage for the Space Shuttle.

As you know, our Subcommittee raised the "cap" contained in the FY 1981 bill to $38,300,000 in order to accommodate this program shift. However, we and the Authorizing Committees, have expressed some concern about the sole-source nature of the Centaur contact with General Dynamics. In particular, this Subcommittee is concerned that the candidate IUS be able to meet the future civilian and military requirements and not just respond to the 1985 launch requirements for Galileo. We also suggested that if a sole-source contract is entered into that NASA should make sure that a firm delivery price is established and that the contractor is held to it.

What have you done relative to defining the Centaur future uses and necessary characteristics?

What contractual arrangements are you pursuing that would minimize the Government's exposure to large overruns?

What specific monitoring and coordination activities will NASA undertake to assure that the Boeing IUS experience is not repeated?

Answer: The choice of Centaur was not made for the purpose of replacing the planned orbital transfer vehicle. It was selected to replace the three stage inertial upper stage, which was experiencing difficulties in cost, schedule, and performance. However, the design reference missions planned for the wide-body Centaur, i.e., the Galileo, the International Solar Polar (ISPM), and the Venus Orbiter Imaging Radar (VOIR), are such that with minor modifications for mission peculiar requirements, the Centaur could perform these missions and the majority of planetary launches for the foreseeable future. The Centaur is not planned for nor is it practical to grow the Centaur into a future manned vehicle for geosynchronous missions. However, capabilities such as low thrust inherent in the basic design will not be precluded in the space transportation system version as this capability may be needed for future missions for large, fragile payloads. Studies are currently underway to analyze a combination storable stage with Centaur and define its characteristics for future missions.

The arrangement for incentivizing the Centaur contracts includes a cost plus incentive fee/cost plus award fee plan, which, when set up along with proper reporting techniques, will provide NASA with management visibility and a means for exercising management prerogatives prior to exposure to overrun situations. The potential for fixed price contracts was explored and determined not to be in the best interest of the program.

NASA's Lewis Research Center has the procurement and Level III management responsibility for the day-to-day monitoring and coordination activities for wide-body Centaur. To insure a check and balance system, the Johnson Space Center will serve as the Level II authority and hold appropriate reviews relative to overall program integration. As in all NASA programs, NASA Headquarters will exercise overall Level I program direction and control. These reviews will be held prior to established program key milestones. In addition to providing a management check and balance system, a concentrated effort is being made to baseline requirements so as to preclude program changes after the program is underway. NASA is confident that the IUS situation will not be repeated in the Centaur program.

SHUTTLE MODIFICATIONS

Question: The Shuttle will require significant modifications and improvements to accomplish many of its design goals. Modifications to the external tank and solid rocket boosters and the performance extension of the main engine will be required before the Shuttle can deliver its designed 65,000 pound payload to low-Earth orbit. A thrust augmentation package is essential to achieving the design goal of launching 32,000 pound payloads into polar orbit from Vandenberg Air Force Base. Supplementary electric power systems will be required to extend stay time on orbit. Other changes will likely result from experience gained during the early flights.

What is the cost of each of the identified modifications and improvements?

Has NASA established a contingency reserve to fund changes arising from early flight experience?

How much is required for such a reserve?

Answer: The requirements for certain improvements in the Space Shuttle System to provide the planned payload delivery capability from the Kennedy Space Center and Vandenberg Air Force Base (VAFB) have been identified over the past few years. These included orbiter and external tank (ET) weight reduction programs and a performance improvement program for the solid rocket boosters, and have all subsequently been incorporated into the baseline Shuttle program. The majority of the necessary engineering and development effort for the orbiter and ET weight reduction changes have already been expended while the solid rocket booster performance improvements program is just starting. The estimated costs of these changes are as follows:

	$ In Millions Approx.
Orbiter Weight Reduction	75 to 100
ET Weight Reduction	45 to 50
SRB Performance Improvement	20 to 25

With regard to the performance augmentation requirement necessary to accommodate the 32,000 pound payload capability launched into a polar orbit from VAFB, alternate concepts are now being studied. These concepts include the liquid boost module, which is a liquid rocket engine package placed under the ET; filament wound solid rocket motor case segments; and the development of the 115 percent thrust main engine. These concepts will be studied in detail throughout FY 1981 and FY 1982 to be in the position to issue an authority to proceed on full development of the selected concept or combination of concepts in early FY 1983 leading to the initial launch capability from VAFB in the 1986/1987 period. The estimated cost will depend on the selected concept but the total development cost could be on the order of $500 million.

The current planning to develop the capability for extended stay time in orbit by the Shuttle orbiter is represented by the Power Extension Package (PEP). The PEP is a solar array assembly which is flown in the cargo bay of the Shuttle and deployed by the remote manipulator system while on-orbit to augment the electrical energy available to the Shuttle. PEP doubles the power to the Shuttle payloads. Duration increases of up to 10 to 22 days at low and mid inclination are possible with PEP utilization. In Sun-synchronous inclinations, PEP could extend orbiter stay time beyond 30 days from power considerations alone. The PEP development will be considered as an FY 1983 initiative during the FY 1983 Budget formulation. The total estimated cost for PEP development is approximately $250 million.

It is expected that changes made after early flight experience can be adequately covered in the Changes and Systems Upgrading budget which was established as a contingency reserve for such changes.

SHUTTLE SUPPLEMENTAL

Question: For FY 1981, you have submitted a rescission request of $4.5 million. This rescission actually represents $74.5 million in changes with $64.5 million coming from twelve space science and application programs. Of this amount, $4.5 million would be rescinded and $60 million transferred to the Shuttle program.

I understand that during your negotiations with OMB, you had a choice of having this $60 million rescinded or of applying it to the Shuttle program--is that true?

What specific use do you intend to make of this $60 million - please present your detailed budget plan for this money for the record. How much of this $60 million would be used, or held as a reserve?

Answer: At this time, it appears that the $60 million requested in FY 1981 for Shuttle Changes and Systems Upgrading will be required to maintain the Shuttle orbital flight test (OFT) program and orbiter follow-on production activities on the current schedules. Of the total, approximately $10 to $15 million will be required in design, development, test and evaluation for external tank and solid rocket booster hardware deliveries supporting the OFT schedule and for the increased work shift requirements at KSC for the pre-launch processing of the STS-2 vehicle. The remaining $45 to $50 million will be required in Shuttle Production primarily for the follow-on orbiter fabrication and assembly activities. The FY 1981 Operating Plan for Production to support an orbiter delivery schedule was acknowledged to be extremely tight. It is now apparent that additional FY 1981 funds will have to be allocated to the orbiter production activities to hold the currently planned deliveries.

SPACE SHUTTLE OPERATIONS

Question: In your opening statement, you note that "The successful first flight of the Shuttle last month marks the beginning of a new era in space. We now face the challenge of completing the development program and moving into operational use of the space transportation system in such a way that we fully exploit its unique capabilities." I certainly agree with your statement--we need to plan now in order to assure that we have an efficient Shuttle operation.

In this regard, I would like to get your views on the findings of the McKinsey Report on the management of Shuttle operations.

The report raises some questions as to Johnson Space Center's (JSC) management approach in evolving from what is now basically design and development to less technical activities concerning the routine operations of the Shuttle such as flight schedules, user services, etc. Apparently JSC is planning a relatively brief and sharp transition from design and development to routine activities. The report concludes that a long and gradual transition is essential in order to get all systems in place and operating for routine operations.

What is your reaction to the transition suggested versus the type of transition the report indicates you are pursuing?

When do you expect the necessary operational and organizational components of JSC to be in place and capable of supporting routine operations of the Space Shuttle?

The user service component of the Shuttle program is crucial to both the purposes and the success of our space program. How will the user service change in going from the use of expendable vehicle to the Shuttle vehicle?

Answer: The brief and sharp transition to which McKinsey refers is derived from their assessment of the NASA Agency-wide budget of over three years ago. It is McKinsey's observation that the budget plan is not consistent with their assessment of the work to be done. The appropriate period for transition is in part a function of budget levels and, in part, a function of the experience gained with each successive flight. At the budget levels authorized, several years will be required to meet the criteria McKinsey used to define routine operations.

The Johnson Space Center organizational elements which will support routine operations of the Shuttle are in place and being used to support the development flights. Appropriate personnel will transition to routine operations as the facilities are reconfigured and the schedule demands. The establishment of Shuttle Operations Project Office, now in place, is a start at organizational reconfiguration.

Assuming that the user is represented by the communication satellite sector, the user service will not change. All of the user services furnished by the expendable launch vehicles are offered by the Shuttle. To facilitate transition from one vehicle to the other, the Payload Assist Module has been designed to support the spacecraft on either an Expendable Launch Vehicle or the Shuttle. Some schedule constraints are placed on each user to allow aggregation of several spacecraft into a single launch payload for Shuttle, and it is this sharing which reduces launch cost to each user. There are additional optional services available to users of the Shuttle which do not exist with Expendable Launch Vehicles. These services, such as on-orbit checkout before release, are negotiated on a case-by-case basis.

Question: According to the report, many users have expressed concern relative to being provided timely information on flight schedule slippages, capability and vehicle performance changes.

a. Are you aware of the concerns and are plans being formulated to deal with these?

b. Significant cost savings in the operation of the Shuttle can be realized by optimizing utilization of the vehicle. What efforts will NASA be making to assure that optimal use is acquired and maintained?

c. How will user cost be formulated? Will user cost be the same for all users, government, private and foreign?

Answer: a. Yes. NASA has held user conferences periodically, the most recent on May 28-29, 1981, to advise users of the current Shuttle development and flight schedule plans. Frequent personal contacts by NASA personnel with all users are made through correspondence or telephone. In addition, a user newsletter is distributed to keep all users current on STS status. With the flight of STS-1 and with increasing experience in managing the flight hardware, there has been improved confidence in our flight schedule forecasts.

b. The Shuttle can effect significant cost savings. To achieve these benefits, the Shuttle cannot be used simply as a "truck" or replacement for expendable launch vehicles. It must be used to exploit those capabilities unique to its configuration and crew complement. While many of the early payloads are "transition" spacecraft designs suitable for either Shuttle or Expendable Launch Vehicles, several Shuttle unique designs are already emerging and many are under study by NASA, the DOD, and developers of commercial communication satellites.

To facilitate such design efforts, NASA furnishes user guides, makes technical staff available for consultation, and is developing an array of ancillary equipment for user accommodations.

Based on survey of present design plans, most spacecraft and payloads will be designed to optimize use of Shuttle capability by the late 1980's.

One of the keys to optimizing utilization of the Shuttle is to identify new uses of the space environment--such as in the area of manufacturing in space. First, joint NASA/industry efforts are already underway to demonstrate the capabilities of the space manufacturing onboard the Shuttle and on permanently orbiting spacecraft that would be visited by the Shuttle. Second, there is a program underway to identify manufacturers of products that either require or could benefit from routine access to the space environment. It is expected that this program will lead to broader uses of space in keeping with NASA's charters in the Space Act.

c. According to the published regulations on Shuttle reimbursement (14 CFR 1214.1 and 14 CFR 1214.2), the Space Shuttle is to be priced so that NASA will recover the cost of the Space Transportation System (STS) operations over the currently defined operational program.

NASA has formulated the pricing of basic Shuttle launch services based on the projected average cost per Shuttle flight over the duration of the 12-year life of the program. The 12 years of operations have been divided into 10 fixed-price periods. The first fixed-price period was defined to be the first 3 fiscal years of operations in an effort to establish initial pricing stability. Each subsequent period is defined to be 1 fiscal year in duration. The fixed-price for each subsequent period will be computed by reassessing the projected average cost per flight over the remainder of the 12-year operations period and including any overrun or underrun from the previous fixed-price period. The fixed-price for each fixed-price period must be established approximately three years in advance of the beginning of the period in order to accommodate the established reimbursement schedule which begins 33 months before launch.

The STS fixed-price has two components: an Operations Charge and a Use Charge. The Operations Charge addresses the costs of manpower and materials associated with STS launch operations and is escalated based on Bureau of Labor Statistics data from a base-year dollar value to the date payment is due. The Use Charge is a charge in lieu of a depreciation charge for use of the STS facilities and equipment, including the Shuttle, and is not escalated. All users (including the U.S. Government) of the Shuttle in a given fixed-price period will be charged according to the same fixed-price schedule, except that the U.S. Government and the other participants in the development of STS (Canada and the European Space Agency and its member states) when using the Shuttle for research and development purposes will not be charged the Use Charge since these organizations contributed to the initial investment in the development of the STS.

A significant feature of the Shuttle reimbursement regulations is the provision for shared Shuttle flights, i.e., flights on which more than one payload **is** carried. Shared flight users are charged according to the portion of Shuttle's capability (measured in terms of length and weight) which they utilize. NASA assumes the responsibility for manifesting shared flights, and according to the reimbursement regulation, recovers the total fixed-price for a flight when it is 75 percent full, which is the projected average load factor of all shared Shuttle flights.

Question: The McKinsey report suggests that STS activities be integrated into a single operations program office in order to handle routine day-to-day operations efficiently at high flight rates with a diverse community of users.

a. Have you considered the merits of this or similar proposals?

b. The current ratio of contractors to civil servants at JSC is 70/30. Do you see that ratio changing at all in the future? If so, why? Has end-item contracting been considered as a workable, practical alternative to contracting as it is currently done at JSC?

Answer: a. Johnson Space Center and NASA have considered and recognized the merits of a single Space Transportation System Program Office. The separate functions were created in order that adequate attention could be paid to user needs and longer lead plans while the critical final development and test activities were being conducted.

b. As the frequency of flights increases, the number of civil servants will increase very slowly; the bulk of the growth will be contractor personnel. This shift occurs because there are a limited number of positions that must be filled by civil service personnel, and those do not increase significantly as a function of flight rate. The contractor functions do increase significantly as higher flight rates require teams to cover six or seven days a week and two or three shifts per day. The form of contracting for each activity at Johnson Space Center has been reviewed several times, and we believe the form of functional scope level-of-effort contract is the most effective for the work to be done at this time.

It should be noted that each such contract contains significant end-item content; but since much of the work at Johnson Space Center deals with mission planning and the development of mission unique software, procedures and equipments, much of the activity deals not with that which is the same flight-to-flight, but that which is unique. Since that class of future need can only be forecasted generically, it is a critical consideration. Further, we believe this is an economical form of contracting because it can be managed for the best allocation of resources among multiple functions.

Question: As a cost-effectiveness factor, McKinsey and company suggests the creation at JSC of an engineering cost analysis function which would be mainly responsible for identifying and assessing the economic importance of potential design changes and other capability improvements to the Shuttle.

a. Are there plans at JSC or NASA to have this type of analysis performed in some way?

b. It is my understanding that the responsibility for cost of maintenance and refurbishment of the Space Shuttle is now dispersed among at least three NASA Centers: Johnson, Kennedy and Marshall. With this system, how will the total maintenance and refurbishment cost to be monitored on an ongoing bases?

Answer: a. Both Johnson Space Center and NASA Headquarters have established a Systems Effectiveness Office to provide an independent assessment of the operational economic significance of design changes, operational management strategies and other capability improvements. This organization achieves the desired objectives within the Johnson Space Center matrix management organization in a cost-effective manner.

b. Johnson Space Center is responsible for the development and production of the Orbiter Vehicle and procurement of the initial spares for line and shop replaceable hardware items supporting the Orbiter system.

Marshall Space Flight Center is responsible for the development and production of the Solid Rocket Booster, External Tank and Space Shuttle Main Engine (SSME) portions of the Space Shuttle vehicle.

Kennedy Space Center is responsible for the launch and landing facilities and equipment development and operations.

The Headquarters Program Office through its resource system is supported by the individual field center program offices and their resource systems, as outlined above, in effectively monitoring the costs of all the various components of the Shuttle.

During the operations time period, Kennedy Space Center will obtain responsibility for maintenance and refurbishment of the Orbiter and SSME's, thereby leaving Johnson Space Center with the responsibility for sustaining engineering and anomaly resolution of the orbiter subsystems. During this period, operations, maintenance and refurbishment responsibilities will reside at Kennedy Space Center with the exception of SRB's which Marshall Space Center retains. (Since the ET is expendable, there are no maintenance costs for it.) Current considerations are being given to potentially transferring the maintenance and refurbishment responsibilities of the SRB to Kennedy Space Center also.

Question: The report states a proposal that an operations board be established at Johnson Space Center to insure that the management of user services and economic performance requirements are being properly discharged. Have you considered implementing such a proposal?

Answer: Organizational issues relating to support of operations are being reviewed by the new NASA Administrator and will include considerations of such functional mechanisms as an Operations Control Board.

Question: The report states that a fundamental purpose of the STS is to provide economical access to space as a means of promoting space utilization. However, to date, little attention has been given to defining explicit economic goals for the STS. Instead, attention has been concentrated upon solving technical problems and building a system that can meet targeted design characteristics. Field centers have received little guidance on specific economic objectives to manage against. For example, should the STS program be managed to minimize NASA's cost per flight or to minimize the cost per pound in low-Earth orbit.

Does NASA intend to establish economic performance parameters or objectives for Shuttle operations such as cost per flight or cost per pound in low-Earth orbit?

Answer: During the Space Shuttle design definition phase, economic parameters were developed for the Space Shuttle. These cost per flight and cost per pound parameters were utilized as design drivers during the Space Shuttle DDT&E program. As a consequence, the Shuttle design has incorporated the influence of those economic design parameters. A continuing focus on these economic parameters will be maintained as the STS program enters the operations phase. However, the influence of these parameters must become more pronounced in such areas as ground turnaround requirements, spares and maintenance approaches and STS utilization concepts.

The term "economical access to space to promote its effective utilization" has many connotations. Cost per flight and cost per pound are among the "figures of merit" that are tracked to monitor system operation. In many cases, economic access requires unique functions; in materials processing, adjustment of "pilot plant" operations by the crew is significant; for certain types of observations, crew selection of targets is critical. Among the most economically significant aspects of the Shuttle are intact abort which substantially changes insurance costs for spacecraft and the ability to retrieve, service, and return to Earth objects in space.

Numerous parameters are assessed and correlated to assess system effectiveness to assure economically efficient management of the system.

Question: The report recommends that NASA begin the immediate implementation of vehicle economics report systems to monitor the costs of orbiter maintenance and refurbishment across field centers on a timely basis and to use the data to assess the integrated life cycle of the vehicle. Has NASA begun to implement this recommendation and when do you expect the system to be operational?

Answer: NASA Headquarters and JSC have established STS effectiveness program level evaluation offices to deal with the economics and operational efficiency of the STS program. NASA is currently developing economic and performance measures for systems evaluations and is implementing schedule, quality, and economic criteria for program improvements. Some of the specific parameters under consideration to be monitored are life cycle cost, cost per flight, flight rate, turnaround time, system utilization, flight schedule mission assurance, etc. Plans to establish an STS Economic Analysis Office at JSC, having as one of its responsibilities a vehicle economic reporting system, are pending in association with formal reorganization of the Center's STS program offices. Similar cost and economics evaluation activities will be established to support monitoring and assessment of costs at field centers.

SPACE AND TERRESTRIAL APPLICATIONS

Question: Your current request for your space and terrestrial applications totals $377.5 million. This is a reduction of $110 million or 23 percent from the January budget request. These reductions will result in delays for the Upper Atmospheric Research Satellite, cancellation of the National Oceanic Satellite System, and rephasing AgRISTARS.

Your opening statement indicates that you intend to structure the reductions in your applications program in such a way as to foreclose as few opportunities as possible.

How will you accomplish this, and what is the cost of this approach in terms of inflation?

Isn't it better to bite the bullet now and totally eliminate your lower priority items?

Answer: The reductions proposed in the revised FY 1982 budget request for space and terrestrial applications resulted from several factors. These included the necessity to reduce total Federal expenditures which dictated overall funding reductions. Another factor was the Administration's decision that certain types of activities, particularly those which provide a direct benefit to specific industries, are more properly carried out, at least in part, by the beneficiaries in the private sector. A third factor was the decision of other agencies involved in cooperative programs to eliminate their FY 1982 funding. In restructuring the applications program, every effort was made to preserve a core technical capability which would permit the initiation of desirable programs consistent with the Administration guidelines at such time as national economic conditions permit.

In terms of inflation, the reductions were a part of the Administration's effort to reduce inflation and are expected to be, in those terms, beneficial.

We did not totally eliminate any major program areas, although certain specific lower priority items were dropped. This was a conscious decision, since improving economic conditions may permit future restoration of a number of activities reduced during this budget cycle.

LANDSAT

Question: Until the recent budgetary cutbacks, Landsat-D prime was scheduled for launch during the third quarter of calendar year 1983. The launch is now scheduled for 1985.

What is the estimate of costs associated with this delay, i.e., cost of storage, maintenance and repair?

In the event the Thematic Mapper is not delivered on time, would NASA delay the launch of Landsat-D?

How long of a delay would NASA consider?

Answer: Landsat D′ is planned for launch readiness 12-15 months after the planned launch of Landsat D. Landsat-D′ was and remains scheduled to be launch-ready as a backup in the event of a Landsat-D failure necessitating such backup. The detailed costs associated with storage of the spacecraft between launch readiness in late 1983 and possible launch as a follow-on spacecraft in 1985 are being developed. If no significant modifications are required due to possible Landsat-D flight anomalies, the costs are expected to be in the range of $4 million to $8 million. Periodic spacecraft and instrument tests are planned to verify performance and satisfactory system operation during the storage period. With such periodic tests and systems operation, the probability of equipment degradations necessitating replacement is small.

The Thematic Mapper integration schedule, in support of the scheduled Landsat-D launch date, is being maintained; NASA does not expect the delivery of this instrument to delay the third quarter 1982 Landsat-D launch. Should some unforeseen difficulty result in delay of delivery of the Thematic Mapper the decision to delay launch would depend on the nature of the difficulty, the estimated time for correction, and the estimated costs associated with the delay and corrective action.

REMOTE SENSING

Question: Does NASA plan to go beyond the Landsat-D′ launch with the current sensing equipment or are you thinking and planning on the next generation of remote sensing?

Answer: NASA has no plans to refly the Multispectral Scanner or Thematic Mapper; any such plans would be the responsibility of the operator of the system. NASA is looking towards the development and test of advanced sensors such as the multispectral linear array and synthetic aperture radar. Other specialized sensors are also being considered such as a multiband thermal infrared instrument. These experimental sensors will lead to exploitation of more regions of the electromagnetic spectrum to develop new applications and to acquire new types of data for established applications.

Question: The French are currently developing a multilinear array remote sensing system with 10-meter resolution. If successful, what effect will it have on NASA′s future research and development of remote sensing devices?

Answer: We feel that the French SPOT 10-meter system may be complementary to the Landsat systems. We are interested in determining the utility of 10-meter and 20-meter SPOT data vs 30-meter Landsat data for certain limited applications. Unlike Landsat′s Thematic Mapper the SPOT system does not detect in the short wave infrared or thermal infrared regions outside the visible portion of the electromagnetic spectrum. It, therefore, has limited utility to several promising areas of research such as detection and characterization of vegetative stress, and classification of hydrothermally altered clays (which are significant in mineral exploration). There is also reason to doubt that the SPOT ground system will be capable of producing the high volume of data products which the current and potential user community may require. Advanced research, development, and testing of sensors by NASA will continue regardless of the "success" or "non-success" of the SPOT instrument.

Question: Satellite sensor data can be used to detect subsurface water as shown from experiments in Arizona, Nigeria and Egypt. What programs or efforts has NASA initiated to provide this information to countries suffering from droughts?

Answer: NASA data is placed in the public domain. Countries can order the data from foreign or domestic dissemination facilities. The Department of the Interior and the Department of State's Agency for International Development provide training for scientists from foreign countries. The NASA charter does not extend into the area of foreign assistance, except in possible joint endeavors with and for the Department of State.

ACTIVE MAGNETOSPHERIC PARTICLE TRACER EXPLORER (AMPTE)

Question: In your opening statement, you indicated that AMPTE design and development will be initiated in FY 1981. How much have you included for this program in FY 1982? What is your schedule of major milestone for the AMPTE program?

Answer: We are planning on funding AMPTE in FY 1982 at approximately a $10-15 million level. However, the exact amount of funding will depend on the total requirements of the ongoing Explorer program and may require adjustment in order to solve technical problems in the ongoing Explorer projects.

The current planning assumes initiation of AMPTE in FY 1981, leading to a launch readiness date of August 1984. Intermediate milestones for the U.S. portion of the program include:

- Signature of a Memorandum of Understanding (MOU) with Germany -- July 1981;
- Project initiation -- Mid 1981;
- Instrument breadboard completed -- Early 1982;
- Spacecraft design completed -- Late 1982;
- Systems integration and test -- Mid 1983;
- Launch operations -- Late 1984; and
- Mission operations between Late 1984 and Mid 1985.

SPACE SCIENCE BUDGET REVISIONS

Question: Your January budget contained $756,700,000 for the space science program. This request was reduced by $172,500,000 or 23 percent in March. This reduction resulted in the termination and stretchout of a number of projects. Could you please describe changes?

Were the specific programs impacted selected by NASA or OMB?

How does the current plan, as embodied in your FY 1982 budget, compare to your most recent five year plan?

Answer: Chart B attached briefly describes the impact of the $172.5 million FY 1982 Budget Amendment reduction to the space science programs which was directed by OMB; however, the actual reductions were ultimately determined by NASA.

The FY 1982 Amended Budget varies from the most recent 5-year plan (January 1980) in that the Gamma Ray Observatory and the Venus Orbiting Imaging Radar missions have been delayed to 1988; the Space Telescope launch was delayed from 1983 to 1985; the Galileo launch was delayed from 1984 to 1985; the International Solar Polar Mission was restructured with the cancellation of the U.S. spacecraft and the launch was slipped from 1985 to 1986; the Chemical Release Module development was terminated; the Halley's Flyby Mission and the Origins of Plasma in the Earth's Neighborhood (OPEN) new initiatives were not included in the FY 1982 Budget as the 5-year plan assumed; and the early Spacelab missions have been delayed as well as the follow-on Spacelab payload development.

INTERNATIONAL SOLAR POLAR MISSION

Question: As you note in your opening statement, the International Solar Polar Mission (ISPM) which was scheduled for launch in 1985, has been restructured. The U.S. spacecraft was cancelled. The new plan calls for continued funding of the U.S. instruments to fly the European-built spacecraft, and launching the European Space Agency (ESA) spacecraft aboard the Shuttle in 1986.

As you know, this Subcommittee restored the $14.6 million slated for rescissions in FY 1981 from the ISPM. This action was based on our commitment to ESA and its member nations and recognition of the significant investment made in this program by the Europeans.

I understand that ESA submitted to OMB a mission plan involving two European spacecrafts at a U.S. cost of $40 million.

Could you describe the major aspects of this proposal and its advantages and disadvantages over the "full-up" U.S. spacecraft?

What are the other options that have been, or are being, considered?

When do we need to make a decision relative to each of these options in order to make a 1986 launch date?

What would be the funding needed in FY 1981 and FY 1982, above and beyond the Administration's request, for a "full-up" U.S. mission?

Do you believe that it would be worthwhile to have the National Academies of Science and Engineering study the various mission configurations and make a recommendation?

Answer: Five options to accomplish the International Solar Polar Mission have been reviewed by NASA: (1) a single launch of the full mission as originally planned on a Shuttle/Centaur in 1985; (2) full restoration of the ISPM with a Shuttle/Centaur launch in 1986; (3)

OFFICE OF SPACE SCIENCE
FY 1982 BUDGET AMENDMENT IMPACTS
(DOLLARS IN MILLIONS)

PROJECT	ORIGINAL BUDGET	AMENDED BUDGET	IMPACT
GAMMA RAY OBSERVATORY (GRO)	52.0	8.0	THE LAUNCH OF GRO WILL BE DELAYED FROM 1986 TO 1988. THE FY 1981-82 ACTIVITIES WILL BE RESTRICTED TO DETAILED EARLY DESIGN ON THE SPACECRAFT SYSTEMS AND THE SCIENCE INSTRUMENTS. THE SCIENTIFIC RESULTS WILL NOT BE AFFECTED, BUT THE SCIENTIFIC RETURN WILL BE DELAYED.
VENUS ORBITING IMAGING RADAR (VOIR)	40.0	10.0	THE LAUNCH OF VOIR WILL BE DELAYED FROM 1986 TO 1988. FY 1982 ACTIVITIES WILL BE RESTRICTED TO DETAILED EARLY DESIGN EFFORTS ON THE SPACECRAFT SYSTEMS, THE RADAR AND NON-IMAGING SCIENCE INSTRUMENTS.
INTERNATIONAL SOLAR POLAR MISSION (ISPM)	58.0	5.0	THE AMENDED BUDGET IS BASED ON THE DELETION OF THE U.S. SPACECRAFT, BUT PROVIDES FOR THE LAUNCH OF THE ESA SPACECRAFT, WITH ITS COMPLEMENT OF NASA AND ESA INSTRUMENTS IN 1986. THE REDUCED INVOLVEMENT BY THE UNITED STATES IN THE MISSION WILL REDUCE THE TOTAL SCIENCE RETURN OF INFORMATION ABOUT THE SUN.
SHUTTLE/SPACELAB PAYLOADS LIFE SCIENCES	16.5	14.0	THE LAUNCH OF THE FIRST DEDICATED LIFE SCIENCES LABORATORY HAS BEEN DELAYED. IN ADDITION, SOME GENERAL PURPOSE LABORATORY EQUIPMENT DEVELOPMENT FOR BOTH HUMANS AND ANIMALS WAS DELAYED.
SHUTTLE/SPACELAB PAYLOADS PHYSICS AND ASTRONOMY	51.8	35.0	SPACELAB 1 AND 2 LAUNCHES WERE DELAYED AND THE FY 1982 EFFORT ON PHYSICS AND ASTRONOMY INSTRUMENT DEVELOPMENT HAS BEEN EFFECTIVELY ELIMINATED.
MISSION OPERATIONS AND DATA ANALYSIS PHYSICS AND ASTRONOMY	53.0	47.0	THE DATA ANALYSIS ACTIVITIES PLANNED FOR HEAO, OAO AND THE ORBITING EXPLORERS WILL BE SLOWED DOWN; AND THE PLANNED UPGRADING OF THE SCIENCE AND APPLICATIONS CONTROL CENTER AT GODDARD SPACE FLIGHT CENTER WILL BE DELAYED.

CHART B

OFFICE OF SPACE SCIENCE
FY 1982 BUDGET AMENDMENT IMPACTS
(DOLLARS IN MILLIONS)

PROJECT	ORIGINAL BUDGET	AMENDED BUDGET	IMPACT
MISSION OPERATIONS AND DATA ANALYSIS PLANETARY	50.9	45.8	THE PLANETARY FLIGHT SUPPORT EFFORTS WILL BE REDUCED; THE VOYAGER, PIONEERS 6-11 AND PIONEER VENUS DATA ANALYSIS ACTIVITIES WILL BE DELAYED; AND THE IMPLEMENTATION OF IMPROVEMENTS IN DATA SYSTEMS PERFORMANCE AND SATELLITE EPHEMERIDES REQUIRED FOR THE VOYAGER URANUS ENCOUNTER IN 1986 WILL BE DELAYED.
RESEARCH AND ANALYSIS PLANETARY	57.2	51.5	FUNDING FOR A PROPORTIONATE SHARE OF THE INFRARED TELESCOPE MID-LEVEL FACILITY IN HAWAII HAS BEEN DELETED. ADDITIONAL REDUCTIONS WILL BE SPREAD ACROSS ALL AREAS INCLUDING PLANETARY RADIO ASTRONOMY, PLANETARY IMAGING, THE LUNAR CURATORIAL FACILITY, ADVANCED MISSION STUDIES AND THE REST OF OUR UNIVERSITY BASED RESEARCH PROGRAM.
RESEARCH AND ANALYSIS LIFE SCIENCES	37.2	29.5	REDUCTIONS WERE MADE IN THE ADVANCED LIFE SUPPORT ACTIVITIES, BEHAVIORAL RESEARCH, SPACE BIOLOGY, LIFE IN THE UNIVERSE, RADIATION EFFECTS RESEARCH, AND GLOBAL ECOLOGY EFFORTS.
SUBORBITAL PROGRAM	37.5	35.5	THE BUDGET AMENDMENT REDUCED THE BALLOON AND SOUNDING ROCKET FLIGHT OPPORTUNITIES PRIMARILY IN SUPPORT OF ASTRONOMY INVESTIGATIONS. IN ADDITION, THE TOTAL FLIGHT HOURS AVAILABLE FOR SCIENTIFIC INVESTIGATIONS IN THE C-141 KUIPER AIRBORNE OBSERVATORY WILL BE REDUCED.

two European Space Agency (ESA) developed spacecrafts launched in 1986; (4) a 1986 launch of a two spacecraft ISPM where NASA would develop a simpler spacecraft than the original mission assumed; and (6) a 1986 launch of a single ESA ISPM spacecraft.

The respective advantage/disadvantage of each option is as follows:

(1) A single launch in 1985 of the full-up mission was submitted as part of the January FY 1982 Congressional budget request which would allow the total mission objectives to be accomplished.

(2) Full restoration of the ISPM with a launch in 1986 (the ISPM was reduced to a one spacecraft (ESA) mission and the launch was slipped to 1986 as part of the FY 1982 Budget Amendment reductions). This option requires reduced funding levels in FY 1981 and 1982, but requires additional funding in subsequent years and the total project cost estimate would increase. The total mission objectives could be accomplished.

(3) Two ESA developed spacecrafts launched in 1986 which would provide for simultaneous measurements at both poles as originally planned, but neither spacecraft would be able to accommodate the coronagraph or x-ray telescope experiments. This option assumed the second spacecraft would be developed by ESA and provided to the United States at a fixed price of $40 million in FY 1981 dollars.

(4) Two spacecraft mission launched in 1986 where NASA would develop a simpler spacecraft would also provide for simultaneous measurements at both poles as originally planned, but the simpler spacecraft would not accommodate the coronagraph or x-ray telescope experiments. It has the added advantage of being a U.S. developed spacecraft, however, the cost of this option is higher than the two ESA spacecraft option.

(5) One ESA spacecraft only to be launched in 1986 which was submitted as part of the FY 1982 Amended Budget to Congress. This is the least cost option where NASA would provide experiments and associated investigator support for the ESA spacecraft. The ISPM would be launched on a Shuttle/Centaur combination. The reduced involvement by the United States in the mission will reduce the total science return of information about the Sun.

Therefore, the advantaged/disadvantages are more closely related to the amount of science return and the total funding required for each respective option.

A decision relative to each of the options should be made as soon as possible to allow both the European Space Agency and the United States to take the most cost effective approach to conducting the International Solar Polar Mission leading to a launch in 1986.

Table C attached shows the preliminary estimate of the required funding in FY 1981 through completion for each of the five options mentioned above.

INTERNATIONAL SOLAR POLAR OPTIONS

	Launch	FY 79	FY 80	FY 81	FY 82	Balance to Compl.	Total Proj. Cost Range	Shuttle Launch
Single Launch on Shuttle/Centaur (Jan Cong. Budget Req.)	1985	12.5	47.9	39.6	58.0	172-220	330-380	$46M
Full Restoration of ISPM Mission launched on Shuttle/Centaur	1986	12.5	47.9	25.0	30.0	295-345	410-460	$50M
Two ESA Spacecraft Mission on Shuttle/ Centaur	1986	12.5	47.9	25.0	5.0	145-160	235-250	$50M
Two Spacecraft Mission where NASA would develop a simpler S/C than original mission	1986	12.5	47.9	25.0	5.0	220-240	310-330	$50M
ESA Spacecraft only on Shuttle/Centaur (FY 1982 Amended Budget Request)	1986	12.5	47.9	25.0	5.0	20-40	110-130	$50M

Table C

NASA has evaluated the approximate cost and science return of these options and, therefore, does not believe that an additional study by the National Academies of Science and Engineering is warranted.

SPACE TELESCOPE

Question: The cost of the Space Telescope is now estimated at $750 million in FY 1982 dollars. This represents an increase of $155 million or 21 percent, thus leaving $283,300,000 to complete the program.

Could you briefly describe the problems encountered with the Optical Telescope Assembly, the Support Systems Module and the other subsystems?

How firm is your current cost schedule estimate and how much of a reserve do you have?

Answer: The current estimated cost of Space Telescope development is $700-$750 million in FY 1982 dollars. This estimate is approximately 26-29 percent greater than the previous estimate of $540-$595 million, and approximately $280 million has been obligated.

The primary problems in the optical telescope assembly have been the result of extremely stringent pointing and stability requirements that are key to Space Telescope's success. The preliminary designs of the fine guidance sensor and focal plane structure were inadequate and required extensive redesign. The structural analysis, systems engineering, and interface support activities were significantly underestimated in their complexity.

The support systems module (SSM) contractor has performed very closely to plan; however, significant manufacturing cost and labor rate increases are projected. In addition, the complexity of the point control subsystem interfaces and interface support activities were underestimated.

The premier instrument, the wide field/planetary camera, required a major redesign because of significant weight growth during the preliminary design phase. The faint object spectrograph also experienced cost growth due to the inability of a subcontractor to meet the performance requirements for the detector elements which eventually resulted in contract termination and procurement from an alternate source.

NASA is reluctant to disclose for the record the specific reserves that currently exist in the Space Telescope program. NASA does feel that the current reserves are adequate to cover a reasonable number of technical difficulties that may arise. If a detailed understanding of the reserve status is required, NASA stands ready to provide this data on an informal basis.

MID-LEVEL FACILITY

Question: In NASA's FY 1982 budget recommendations, funds of $1.7 million for the construction of a permanent Mid-Level Facility at the Mauna Kea, Hawaii observatory to house NASA personnel already living and doing research there, have been cut back.

What are NASA's future plans to meet its share of the construction cost of this facility if funds are not authorized this year?

If funds for this Mid-Level Facility are not authorized, does this mean research at Mauna Kea will be halted?

Describe the present temporary facilities that NASA personnel are living in and also the facility's present equipment.

Answer: Due to the FY 1982 Budget Amendment, funding for NASA's proportionate share of the Infrared Telescope Mid-Level Facility in Hawaii was deleted entirely. Therefore, other arrangements for personnel working at the Infrared Telescope Facility are being pursued. It may be possible to continue partial operations of the NASA Infrared Telescope Facility (IRTF) on Mauna Kea with personnel commuting daily from near sea level to an altitude of nearly 14,000 feet; however, problems of personnel safety, as well as the greatly reduced number of hours of operation of the telescope in the operating mode render such an approach problematical.

Personnel staying at the Mid-Level Facility, now and in the future, are the operating staff and observers who are working at the IRTF. The IRTF is operated for NASA under contract by the University of Hawaii, and, therefore, the operating staff consists of University personnel. The observers include NASA personnel, but are primarily university astronomers obtaining NASA-needed data under research grants or contracts.

The temporary mid-level facilities consist of four wooden buildings, originally built as construction camps for crews building the telescopes at the summit. The buildings, all property of the University of Hawaii, have been renovated on the interior to serve as temporary living quarters for observers and some of the staff working on the Canada-France-Hawaii, United Kingdom, University of Hawaii, and NASA IRTF telescopes on the summit. The University has an agreement with the State of Hawaii that the temporary buildings will be removed once the permanent Mid-Level Facility is constructed, therefore, we are pursuing other possible arrangements for users of the facility.

FIRE RESISTANT AVIATION MATERIAL

Question: Last December, you announced the development of a spongy, lightweight material that resists ignition better than any materials now in use, and upon ignition at 800 degrees Fahrenheit, only chars and decomposes, has been developed for NASA's Johnson Space Center in Houston by the Solar Division of International Harvester, San Diego. The new flame-resistant material could further reduce in-flight fire risks and lengthen the time allowed for airline passenger evacuation from two to five minutes for a survivable crash complicated by an external fuel fire.

What is the current status of this program--when do you expect to see this material become commercially available?

Answer: A critical portion of the NASA FIre REsistant Materials ENgineering (FIREMEN) research to improve occupant survivability in post crash aircraft fires deals with aircraft seat materials since they constitute a major source of readily combustible materials and can propagate flames to other flammable interior materials. Currently, seat cushions are fabricated from a fire retardant treated polyurethane foam. This is the same foam that is used in automobiles and furniture, which easily ignites and releases obscuring smoke and incapacitating toxic gases.

The FIREMEN program has concentrated on developing inherently fire resistant seat cushion foams and coverings as well as wrapping existing polyurethane foam with a fire blocking neoprene covering. Polyimide (PI) foam has been developed by NASA's Johnson Space Center and the Solar Division of International Harvester as a lightweight fireworthy foam recognizing that its potential to save fuel by reducing aircraft weight is an important consideration for implementation of this advanced technology. Polyimide foam cushions weigh about one-half the weight of polyurethane foam cushions. The polyimide cushions have been recently tested in the Douglas Aircraft Company and JSC laboratory environments using radiant heat panels and small amounts of jet fuel as fire sources. These test results when compared to polyurethane tests have shown the expected dramatic improvements that justify fire testing in the Federal Aviation Administration Technical Center's C-133 full size fire simulator this summer. The remaining NASA/Solar research over the next year will concentrate on improving the durability and wearing qualities of polyimide foam so as to achieve the required 2-3 year life expectancy for commercial use. International Harvester's Solar Division has recently stated that it will have sufficient production capability to support airline domestic needs by the end of 1981.

LARGE COMPOSITE PRIMARY AIRCRAFT STRUCTURES

Question: Your revised budget eliminates the proposed initiative for Large Composite Primary Aircraft Structures. How will the current composite technology be extended to the large composite wing and fuselage structures for significant weight-savings, critical flight elements in future civil or military transports and cargo aircraft without this program?

Answer: Composite primary structure is one of the keys to the economic and competitive success of future transport and cargo aircraft, both civil and military. The full advantages to be realized in terms of fuel efficiency and other performance parameters cannot be achieved until the risks associated with composite wing and fuselage structure have been reduced to an acceptable engineering level. The confident extension of composites technology to flight critical wing and fuselage structures and the achievement of significant weight savings is dependent upon major commitments and technology development efforts by both the Government and industry.

A major planning effort is underway within NASA to define a Transport Aircraft Composite Structures program which will provide the technology and confidence required to commit composite wing and fuselage structure to a 1990's civil or military transport. This planned program is being developed within existing policy guidelines to assure significant advancement in NASA in-house technology capability, provide evolutionary systems technology advancement without performing tasks which are normally industry's responsibility, and achieve major advances to composite primary structures by the late 1990's.

NASA's ROLE IN DESIGN AND DEVELOPMENT OF SUPERSONIC AIRCRAFT

Question: Your revised budget indicates that the supersonic cruise research program will be cancelled. In the budget statement, NASA states that "this NASA-focused effort, the only one in the United States, had continued the development and maintenance of a technology base which would have been necessary to make informal decisions concerning future military and civil supersonic cruise aircraft. The associated variable cycle engine technology program -- has also been cancelled."

Do you believe we should confine the NASA effort to very basic materials research, to development of components and systems, or to the building and testing of complete flight vehicles to demonstrate the technology of high speed research craft?

NASA has characterized aeronautical research in a quartet of headings: "Proof of concept, extension of the art, future needs, and problem solving".

For the record please elaborate upon these headings and indicate whether-or-not the budget reductions of FY 1982 have focused more heavily on any one of these areas?

Answer: The NASA efforts in the supersonic cruise research and variable cycle engine programs were directed at development of a broad data base focused on the unique problem areas of future supersonic transports. These efforts, as most research and technology efforts in NASA, included fundamental work in the discipline technologies.

NASA's immediate future efforts, because of budgetary constraints, will emphasize discipline research and technology activities. As technologies become better defined, or as specific needs are identified, activity in component and systems demonstration will be needed. Although the construction and testing of complete flight vehicles to demonstrate the technology of high speed research aircraft will very likely be required at some time in the future, we are not currently including such effort in the NASA program.

The terms "proof of concept, extension of the art, future needs and problem solving" describe program activities during different stages in research and technology program planning and execution. Future needs are defined during program planning and early stages of the program. While working with the user community (DOD, industry, other Government agencies), we identify requirements and future needs and determine where it is appropriate for NASA to perform research and technology activities to meet the needs. The subsequent effort to generate the needed technology is the extension of the art. This stage may be an expansion of ongoing efforts, or it may require a completely new dedicated effort to fill the gap.

When NASA program activities in a given area have identified very promising new advanced aeronautical concepts through analysis and small scale model investigations, these advanced concepts may require large scale integrated model ground testing or, in very selected cases, may require the real environment of flight for proof of concept. The problem solving stage generally relates to effort devoted to resolving difficulties or shortcomings in systems already in development or operation.

These programs had not yet progressed to the proof of concept or problem solving stages. In FY 1981, the activities were balanced between extension of the art and future needs. The planned FY 1982 activities will be biased toward extension of the art in high speed cruise aircraft technology. The cancellation of the supersonic cruise research and variable cycle engine programs have in effect removed the focus on civil supersonic transport. Work in materials research, aerodynamics, propulsion and nacelle/airframe integration continues at a reduced pace.

VERTICAL/SHORT TAKE-OFF AND LANDING SYSTEMS (V/STOL)

Question: Your revised budget indicates that the current V/STOL system technology activity will be terminated in FY 1982.

Discuss the impact of this termination on the national capability in this area.

Will the termination of this program adversely impact on the military efforts to develop a rapid deployment capability?

Answer: Although the V/STOL Systems Technology activity will be terminated, NASA will have a continuing modest V/STOL research and technology base effort investigating long-term generic V/STOL technology problems in the general areas of configuration aerodynamics, propulsion and flight dynamics. The research and technology base program will also provide a reasonable amount of NASA testing in support of future DOD V/STOL programs. The termination of the NASA V/STOL Systems Technology will seriously impact national technology capability to develop markedly improved future generation V/STOL aircraft unless the DOD undertakes technology programs to fill the void. NASA will be working with DOD to develop technology programs for future military rapid development capability, and to provide the most necessary test support in NASA facilities.

ADVANCED ROTORCRAFT TECHNOLOGY

Question: In the revised budget, your FY 1982 Advanced Rotorcraft Technology activities will be reduced. Please describe the specific reductions and their impact on the Nation's ability to compete with foreign manufacturers in these areas. The large scale rotor system wind tunnel tests were previously scheduled for FY 1984. What would be the impact of cancelling or delaying these tests?

Answer: As a result of the budget revision, the activities that will be reduced in the FY 1982 Advanced Rotorcraft Technology program are: (1) delay in the ground based program for XV-15 composite rotor system; (2) delay in rotorcraft - unique small turbine engine components research; and (3) reduction in rotorcraft avionics activities. The program reductions in FY 1982 are to be recovered in subsequent years based on the fact that the budget action was a rephasing of research tasks rather than an outright reduction. Therefore, the impact on the Nation's technology posture relative to foreign manufacturers will be minimal.

Large scale rotor systems wind tunnel tests are retained in our plan and will resume following start-up of the new 40-x 80-ft./80-x 120-ft. wind tunnel at the Ames Research Center in FY 1982 and continue on a regular basis through FY 1984. In addition, flight research using a modern 4-bladed rotor will begin in FY 1984 using the Rotor Systems Research Aircraft.

These tests are being carried out to provide accurate, detailed data for correlation with advanced analytical methods now under development. This research will form the basis for the development of new design tools by the U.S rotorcraft industry in order to compete with a very aggressive foreign industry.

NUMERICAL AERODYNAMIC SIMULATOR

Question: Your January budget contained $16 million for the initial development efforts on a Numerical Aerodynamic Simulator. The revised budget eliminated the funds for this program. You have characterized this simulator as a unique and revolutionary advance in computer systems technology with unprecedented problem solving capability. It would be used for solving high order aerodynamic problems associated with complex aircraft configurations. What impact will deferring the simulator project have on maintaining U.S. preeminence in the aviation field.

How do your goals for the new simulator compare to your understanding of Japan's Ministry of International Trade and Industry's goals vis-a-vis the development of a similar computer capability.

Have you considered an alternate procurement approach for the simulator somewhat along the cost sharing lines used by NSF for the Ocean Margin Drilling Program.

What resources would be required to maintain a minimum viable activity in FY 1982 in order to achieve operational status of the simulator in 1986?

Answer: NASA considers the Numerical Aerodynamic Simulator (NAS) essential to the maintenance of U.S. preeminence in aeronautics and any delay is cause for concern.

The goals of the MITI sponsored computer project are comparable to those of the NAS. The MITI project is being undertaken for the Japanese National Aerospace Laboratory which is the Japanese counterpart of the NASA.

NASA is aware of the Ocean Margin Drilling (OMD) program. There are some significant differences between the OMD program and the NAS: the NAS will cost $100 million which would have to be shared by an industry composed of only a few large companies versus the

OMDP which is only $10 million and shared by many large oil companies whose resources are considerably greater than the aerospace industry's; the OMDP has the potential of immediate commercial return through the discovery of new oil/gas fields whereas NAS represents a long term research investment which the aircraft companies probably will not use as a design tool until after approximately 1988-89. It would be more appropriate for the NAS to include some form of amortization of capital costs in its user fee structure. The NAS will be a large facility like NASA's wind tunnels and it is in the Government's interest for NASA to control, operate, and maintain this facility.

The minimum level of funding for initiation of NASA in FY 1982 is approximately $10 million.

Question: In its November 10, 1980, issue, Business Week magazine reported, "...The most ambitious cooperative research program is taking shape at the University of Minnesota, where Control Data, Honeywell, Sperry and 3M, among others, are chipping in up to $2 million each to form the Microelectronics and Information Science Center (MEIS). The Center, which will be controlled jointly by corporate and university officials, aims to supervise about $20 million a year in basic research in microelectronic physics, integrated circuit design, and system architecture..." Has NASA approached the Microelectronics and Information Science Center (MEIS) in conjunction with the Numerical Aerodynamic Simulator (NAS) with a view toward a possible cooperative effort, including joint funding, for some aspect of the NAS development.

Has NASA considered establishing a "user reimbursement program" for NAS?

Answer: NASA has not directly approached MEIS but is aware of their activities through the Control Data Corporation which is a prime founder of MEIS and a contractor to NASA on the Phase B definition studies for the NAS. The NAS and MEIS are not directly compatible since MEIS is designed to do basic research (leading edge technology development) in solid state physics, integrated circuit design, and systems architecture. The NAS is to be a user-oriented, reliable computer using only well-proven existing production integrated circuits and associated electronics. The NAS will not be a research or developmental computer but a best state-of-the-art computational facility to do aerodynamic/fluid dynamic research.

NASA plans a user reimbursement charge with appropriate amortization fees included.

TURBOFAN

Question: NASA's Advanced Propulsion Systems Program includes the design, development and testing of technology for use in next-generation, high-bypass turbofan engines in the Energy Efficient Engine program. Funding for the Energy Efficient Engine program has been reduced by $3 million in FY 1982 with a portion of the fabrication effort of the integrated core and low-spool system being delayed. Describe the impact of the schedule change, particularly as it might delay product development by industry.

Recently the authorizing Committees included additional funding for this area. How will these, if appropriate, effect your development activities?

Answer: A recent detailed review of projected costs for the Energy Efficient Engine program through FY 1982 showed that little, if any, delay will occur in the fabrication effort for the integrated core and low spool because of the $3 million reduction in FY 1982. The small delay that could occur is planned to be made up in the following fiscal year so that no delay in systems testing will occur and, thus, there will be no impact on product development by industry. However, since the reduction reduces the project reserves available within the program, risk will increase as the reserves remaining may be insufficient to allow for the normal problems associated with a program of this type and to accomplish all of the planned systems testing.

TRACKING AND DATA RELAY SATELLITE SYSTEMS (TDRSS)

Question: A recent Inspector General (IG) Report on the Tracking and Data Relay Satellite System (TDRSS) stated three original major objectives of the program and concluded none had been met. Further, the NASA IG made some 23 recommendatins.

Please discuss the status of the program, along with any general comments relating to it, that you wish to make.

Answer: Activities leading to launch readiness for TDRSS are progressing well. The first spacecraft is undergoing environmental testing. Vibration and acoustic testing are completed and thermal vacuum testing is scheduled for July. The environmental tests will be followed by a post-environments comprehensive system test, and it is planned to initiate preparation for storage in September. The second spacecraft has entered integration and testing.

The ground segment is essentially complete. The installed equipment is undergoing various service tests. The basic software for the ground terminal is completed and tested. Although modifications are anticipated to satisfy some unique user requirements, the major components of the overall system are nearing completion.

To date, we have not experienced anything in the course of TDRSS development which significantly alters our original belief that the system will deliver the required tracking and data services to the user community in the coming decade. The system will provide the high data rate support and the flexible, greatly expanded coverage necessary for the Shuttle era while allowing us to close most of our ground stations with attendant cost savings.

Question: Please provide for the Committee files copies of any internal management reports covering this subject as addressed by the NASA Inspector General.

Answer: The Inspector General's (IG) Audit report on TDRSS is a comprehensive report now being analyzed within NASA. An assessment of the recommendations and actions to be taken will be presented to NASA management for final decisions. At that time, a management report on NASA's position, together with planned actions to be taken, will be forwarded to the Senate Subcommittee.

Question: NASA's flight assessment baseline shows that a light weight external tank, lightweight solid rocket boosters, and a main engine setting of 102/109 percent of rated power level will be required for Orbiter 102 to launch the first Tracking and Data Relay Satellite (TDRS) in September 1982? Will the main engine certification be completed and both the lightweight external tank and solid rocket boosters be available in time to launch the TDRS-A in September 1982?

Answer: Rather than September 1982, the current schedule for TDRSS-A launch is December 1982 with Orbiter 102 (STS-6). The main engines currently on Orbiter 102 are planned to remain on that orbiter for the first nine flights. These engines have been certified for mainstage operation at 102 percent of rated power level (RPL) and the 109 percent of RPL abort capability has been demonstrated. The lightweight external tank and the solid rocket boosters for STS-6 will be delivered to KSC in September 1982.

Question: If the launches of TDRSS-A and B are delayed, what will be the cost impact to the TDRSS program?

What will be the impact on other missions?

Answer: The cost impact of a delay on TDRSS-A is currently estimated to be about $23 million per month. The cost impact to TDRSS of delays is largely dependent on the delay of TDRSS-A; this is because roughly 2/3 of the impact results from additional interest costs associated with delays in the initiation of loan repayments which are tied to the launch and verification of service capabilities of the first (A) spacecraft. The cost impact to TDRSS of delay in the launch of the second (B) spacecraft is dependent upon negotiations with the contractor and are, therefore, indeterminate, although such impacts would be considerably smaller since loan repayment initiation is not affected.

There are additional costs associated with the operations and maintenance of the present ground Space Tracking and Data Network (STDN) in the amount of $4.5 million per month.

If TDRSS-A is delayed several months, it will cause the delay in the launch of Spacelab 1. The requirement for a TDRSS-B launch prior to Spacelab 1 is under study.

If both TDRSS missions are delayed, Landsat-D would have to continue to use the Japanese ground station to cover India, China, and Australia for the additional months of slip.

Question: I understand that NASA plans to close down eight of its fifteen space tracking and data acquisition ground stations once TDRSS becomes operational. An additional three stations will remain open on a contingency basis. What are the estimated annual savings resulting from the closing of the eight stations?

What is the justification for the continued operations of four stations on a full-time basis and three on a contingency basis after the TDRSS becomes operational?

The benefits of TDRSS will be realized over its ten year operational period in three forms: cost savings associated with station closures (our overall network costs in 1986 will be reduced by about $100 million per year express in FY 1982 dollars); cost avoidance of not implementing K-band and associated communications throughout the ground network to support the high data rate missions of the Shuttle era; and the six-fold increase in mission coverage provided by TDRSS compared to the ground network.

SUPPORT SERVICES CONTRACTS

Question: In a recent report, GAO tested the way six support services contracts were being administered at Johnson Space Center. NASA currently spends about $175 million annually on such service contracts at Johnson. GAO found, investigating these contracts:

- A contractor was working without approved work orders;
- Government-furnished equipment was unaccounted for;
- Questionnable reimbursement occurred for contract or costs;
- Contract funds increased before the need was justified;
- Contracting officers were unaware of their responsibility and unfamiliar with contract terms; and
- Some contracting officers had a general attitude that small dollar value contracts are not worthy of adequate attention.

GAO also concluded that an over reliance on cost-type contracts which require greater administrative effort than fixed-price contracts, contribute to these contracting weaknesses and recommended that NASA take corrective action.

What comments do you have on this GAO report and what procedures do you intend to implement to correct these deficiencies? Could you please report back to the Committee in 60 days as to the action NASA has taken relative to these problems?

Answer: NASA is currently conducting an analysis of this situation and will submit the findings to the Subcommittee within the 60 days.

INFORMATION BURDEN ON THE PUBLIC

Question: On January 13, 1981, the OMB issued its Information Collection Budget for FY 1981. That budget contains targets for 28 departments and agencies that imposed a paperwork burden of 1,276,000,000 hours on the American public in FY 1980. If every man, woman and child in Salt Lake City worked 20 hours a day, 365 days a year, they would not be able to complete this paperwork requirement. As part of that budget, OMB established allowances for each of the departments and agencies. These allowances in aggregate would result in a decrease of 56 million hours from the levels requested for the agencies for FY 1981 and decrease the total paperwork burden by 48 million hours from the FY 1980 total.

Your Information Collection allowance for FY 1981 is 286,000 hours, the same as the OMB allowance.

What activities have you undertaken to assure that you remain within this allowance?

What is your estimate for your FY 1982 Information Collection Budget?

Answer: NASA imposes less than .04 percent of the total Federal manhour burden on the public. One report, the "Contractor Financial Management Report," accounts for 231,700 of 284,527 burden hours. This report is the basic financial management medium for reporting contractor costs as it relates to schedule and technical performance. The remaining 52,827 hours come primarily from NASA contractors and the scientific and technical community. Only about a third of NASA's OMB clearances are mandatory requirements.

Despite the small number of paperwork requirements that NASA imposes, NASA maintains strict controls on information to assure that the Agency remains within the Information Collection Budget. Methods of information management include an internal clearance and staffing procedure which assures that every level up to the Associate Administrator for Management Operations is aware of each new or renewed requirement.

The NASA clearance office maintains an automated inventory of information requirements in cooperation with eleven other Federal agencies. This information locator system enables cross-checking between agencies to prevent duplication of reporting requirements and encourages information sharing in the Federal sector.

In addition, NASA attempts to share reporting forms with the Department of Defense since the two agencies deal with many of the same contractors. This cooperative effort saves restructuring data for similar purposes and cuts the burden on the contractors.

The NASA FY 1982 Information Collection Budget (ICB) is in the process of development. Agency ICB submissions are not due to OMB until the end of June, so final figures are not yet available. The NASA FY 1982 ICB is not expected to differ appreciably from the FY 1981 submission.

SES BONUSES

Question: How much have you included in your budget request for SES bonuses during FY 1982?

Answer: The FY 1982 budget request includes $750,000 for NASA Performance Awards and $300,000 for Rank Awards (Distinguished Executive and Meritorious Executive).

PERSONNEL

Question: Your FY 1982 budget assumes a revised personnel level of 21,873 or a decrease of 840 people.

How will this reduction be absorbed -- will you have to RIF people?

What impact will this have on NASA's ability to manage its programs?

Answer: The reduction of 840 positions has been assigned within our organization as follows:

What are the annual costs to operate and maintain these stations?

Are the three contingency stations expected to close at some later date and if so, when?

Answer: In 1986, we expect to be in full operation with the TDRSS and will have closed all STDN stations except Merritt Island and Bermuda, which will be used for launch and landing support only, and the station at Greenbelt, Maryland, used to support International Ultravoilet Explorer. The STDN stations at Canberra, Madrid and Goldstone will have been consolidated with the DSN and will be operated by the Jet Propulsion Laboratory. As a result, our overall network costs in 1986 will be reduced by about $100 million a year (expressed in FY 1982 dollars). Included in the above estimate are the annual cost savings anticipated to be realized by the network consolidation program (about $20 million-FY 1982 dollars) beginning in the same time frame.

We plan to close stations located at Hawaii, Guam, Ascension Island, Quito, Ecuador, and Santiago, Chili, when TRDSS becomes fully operational and Fairbanks, Alaska when suport for Landsat and Nimbus are no longer required (October 1984). Additionally, the three STDN stations at Madrid, Spain, Canberra, Australia and Goldstone, California will be removed from the STDN network and consolidated with the present Deep Space Stations at those locations to reduce operating costs and provide greater capability for deep space missions and to support highly elliptical spacecraft. Full-time stations at Merritt Island and Bermuda will remain open to support launch and landing of the STS and launch of expendable vehicles. The station at Greenbelt, Maryland, will continue to support the International Ultraviolet Explorer (IUE) mission during its lifetime. The three contingency stations at Ponce-de-Leon, Florida, Tula Peak, New Mexico, and Buckhorn, California, are required for launch and landing support of the Space Shuttle.

The approximate costs to operate and maintain the stations at Alaska, Greenbelt, Maryland, Merritt Island, Bermuda, Tula Peak, Buckhorn, and Ponce-de-Leon, will be about $40 million per year.

We plan to close the three contingency stations as soon as operational experience verifies the capability of TDRSS to provide accurate and reliable tracking data.

Question: NASA's Space Transportation Systems, Operations, Program Introduction Document, dated July 2, 1980, shows that 17 Department of Defense stations will be required to support STS operations despite TDRSS. What is the most current estimate of the annual savings expected from the TDRSS?

How does this compare to the original savings estimate?

Answer: The Department of Defense stations will provide both launch and landing support for Shuttle missions. Along with the range safety functions, critical trajectory data is required until the navigation with the Global Positioning System is accepted.

The estimated annual cost to NASA for this Department of Defense support is aproximately $1.5 million.

Installation	Current Ceiling	Revised Ceiling	Reduction	Percent Reduction
ARC	1,658	1,608	-50	-3.0
DFRC	461	450	-11	-2.4
GSFC	3,444	3,319	-125	-3.6
JSC	3,489	3,380	-109	-3.1
KSC	2,201	2,155	-46	-2.1
LARC	2,980	2,895	-85	-2.9
LERC	2,835	2,690	-145	-5.1
MSFC	3,561	3,385	-176	-4.9
NSTL	103	105	+2	+1.9
WFC	395	380	-15	-3.8
HQS	1,586	1,506	-80	-5.0
Total	22,713	21,873	-840	-3.7

We are still in the preliminary stages of developing option and plans for achieving our new ceiling by October 1, 1981. Our centers are in the process of developing detailed plans and analyzing programmatic impacts. Our preliminary plan is to minimize reduction-in-force procedures through the use of attrition. By forfeiting most hiring capabilities, we hope to absorb most of the reduction in this manner. We have continued to limit most hiring and will use (subject to Office of Personnel Management approval) early optional retirement authority at George C. Marshall Space Flight Center.

Although the programmatic impact of the reduction will not be fully assessed until later in the year, we feel that other negative effects will include an increase in average age, and some skill mix imbalances.

US/USSR SPACE PROGRAMS

Question: Last year, the Soviet Union conducted 3.5 times more missile and space flights than the United States. So far this year, the margin is less but the trend is similar.

The Soviet Union launched 57 missile training flights, 8 missile Research and Development test flights, and 12 space flights, for a total of 77 missile and space missions.

While the Soviets completed almost twice as many missile training flight last year, they launched almost seven times the number of space missions in 1980 than did the United States.

How would you assess the Soviet space capability relative to the United States?

How does your FY 1982 budget request relate to your FY 1980 budget relative to the civilian amount of funding for, and the number of, civilian space mission supported?

To your knowledge, has the new Administration developed a civilian space program policy and what would you suggest such a policy contain?

Answer: Analysis of Soviet capabilities in space vis-a-vis the United States involves extensive research and complex qualitative judgments, and for a detailed response you should look to the intelligence community rather than NASA. In general terms, we are inclined to accept the judgments of Dr. Charles S. Sheldon of CRS contained in his recent publication, The United States Space and Soviet Progress in Space: Summary Data and a Forward Look (revised January 15, 1981). He characterizes both the U.S. and Soviet space programs as broadly-based, with impressive efforts underway in terrestrial applications, space science, and manned spaceflight. Based on current and projected Soviet activities, Sheldon has predicted that the 1980's will be a period of substantial achievement for their space program, which will likely include the permanent occupancy of expanding manned orbital facilities, with a capacity to support industrial and resource applications. He estimates that Soviet manpower and resources dedicated to space activities at the present time are probably comparable to the U.S. program at its peak level, during the Apollo era, several times the current U.S. level.

The Soviet family of expendable launch vehicles is large, capable and reliable, but they have nothing to match the reusability and potential flexibility of the Space Shuttle. On the other hand, Soviet experience with long-duration manned spaceflight far exceeds that of the United States, and their lead continues to grow.

The total appropriation for NASA space programs in FY 1980 was $4.683 billion. The budget request for FY 1982 is $5.621 billion, an increase of approximately 20 percent. When adjusted for inflation, however, the FY 1982 budget is slightly below the FY 1980 level in comparable dollars.

In terms of flight schedules, FY 1980 was a year of relatively low activity during which six expendable launch vehicle missions were conducted by NASA. They included one DOD mission, two NASA missions, and three reimbursable civilian missions. In FY 1982 the schedule provides for fifteen expendable launch vehicle missions and three Space Shuttle missions. Twenty payloads are scheduled for launch by NASA, one for DOD, four NASA payloads, and fifteen for civilian reimbursable users.

The budget for any given fiscal year, however, is primarily a function of development effort on payloads and missions to be conducted in future years. The following is a list of flight projects which were under development in the FY 1980 budget and those which are under development in the FY 1982 budget.

FY 1980 Budget	FY 1982 Budget (Amended)
Space Shuttle	Space Shuttle
Beginning of Orbital Flight Test & Preparation for Operational Mission	Beginning of Orbital Flight Test & Initiation of Operational Missions
Spacelab	Spacelab
U.S. Development and Integration Activities	U.S. Development and Integration Activities
Procurement of Second Spacelab	Procurement of Second Spacelab

Development of Payloads in Physics & Astronomy Life Sciences, Applications and Technology	Development of Payloads in Physics & Astronomy, Life Sciences, Applications and Technology
Solar Maximum Mission	Launched FY 1980
Space Telescope	Space Telescope
International Solar Polar Mission (2 spacecraft, U.S. & ESA)	International Solar Polar Mission (ESA spacecraft only)
Physics & Astronomy Explorer Mission	Physics & Astronomy Explorer Mission
--	Gamma Ray Observatory
Galileo Mission to Jupiter	Galileo Mission to Jupiter
--	Venus Orbiting Imagining Radar
Landsat-D	Landsat-D
Search & Rescue Mission	Search & Rescue Mission
Earth Radiation Budget Experiment	Earth Radiation Budget Experiment
Halogen Occulation Experiment	Halogen Occulation Experiment
Magsat	Launched in FY 1980

To our knowledge, the new Administration has not established an explicit civilian space program policy. In our judgment, any new policy should address the basic national approach to both near-term and long-term leadership in space capabilities and exploration. Included among issues which should be addressed in such a policy statement are the following:

(1) Effective utilization of the capabilities of the Space Shuttle for scientific missions and for practical applications of space capabilities including those of primary interest to the Government and those of primary interest to the private sector or the U.S. economy as well as to foreign users;

(2) Goals or objectives in Space Science including improved understanding of the Earth and its environment, exploration of the solar system, and expansion of our knowledge of the Universe;

(3) The Government's responsibility for identification and demonstration of specifically useful applications of space capabilities, and the effective transfer of these capabilities to the Government agencies with the appropriate functional responsibilities or the appropriate elements of the private sector; and,

(4) Our approach to international cooperation in exploration and use of space.

MONITORING OF CONTRACTORS

Question: The Hearth recommendations imply that actions will be needed to strengthen NASA's in-house capability for contractor monitoring to assure early identification of technical and cost problems. The former Administrator, Dr. Frosch, also has stated that the Agency had let its in-house capability slide downhill too much.

What factors led to this deterioration in NASA's ability to properly monitor its Research and Development projects?

What specific steps are planned by NASA's top management which will assure that the Center Directors are provided adequate resources for planning and managing its projects (personnel, travel funds, Research and Development funds)?

When NASA top management approves a project and assigns it to a lead Center, does this not presently require a determination that the Center has been allocated adequate resources to manage the assigned projects?

Should this not be a normal and required function of top management?

Why doesn't NASA include a listing of its staffing needs each time a new start is initiated? We would like to have this information from now on.

Answer: Many NASA projects represent first of a kind developments involving high technical costs and risks. As we pursued more technically advanced projects in the late 1970's we were experiencing pressures to reduce in-house staffing, and in some instances this resulted in reduced civil service involvement in project management. Overall the project management performance has been good, and the Hearth review did not uncover major deficiencies in the staffing of projects.

While recognizing that NASA does have limited resources and must operate within travel and personnel constraints, the Agency policy is to provide adequate staffing to Centers to execute major projects assigned. Center manpower allocations to projects and key personnel assignments will be reviewed with the Center management on all future NASA projects with special attention to the long term requirements. In addition, all future major new initiatives will require documented agreement between Headquarters and the Center Directors on the project objectives and adequacy of Center resources to carry out the objectives. Also, NASA will be reemphasizing its policy of penetration of contractor activities including providing on-site staffing where appropriate.

When NASA top management approves a project, a determination that a Center has adequate institutional resources is made. However, since a project assignment usually covers a number of future years, the institution is often impacted by future externally directed reductions in institutional resources or the loss of buying power due to unanticipated inflation rates.

NASA does not include a listing of staffing needs each time a new start is initiated since it views its civil service staffing as part of an institutional capability. This institutional capability is not sized by individual project staffing requirements or an aggregation of projects. Rather, our institutional capability is sized by such considerations as a base for technical analysis and evaluation, specific Research and Development expertise for near and long-term needs, and an independent capability to perform test and evaluation of hardware.

STUDY ON NASA PROJECT MANAGEMENT

Question: On April 27, Drs. Hearth and Calio described the Study on NASA Project Management. At that hearing, Dr. Hearth reviewed in detail the recommendations and conclusions of the study, and Dr. Calio presented the status of the implementation of the study. I do not wish to review all of the materials at this time; however, I would like to ask some follow-up questions on this subject.

What plans does NASA have for its top management to review, on a periodic basis, the effectiveness of the measures recommended in this study?

When will the first such follow-up review occur?

Please provide for the record a list of current projects and candidate projects on which the revised project management policies, procedures, and practices are expected to be used.

During his testimony, in response to a question asked by Senator Schmitt, Dr. Hearth indicated that he was aware of instances where NASA had "bought in" on certain projects or programs.

This is a serious accusation--could you please expand on this statement?

Answer: Specific plans for periodic top management review of the effectiveness of the measures recommended in the study on NASA project management have not been developed at this time. However, it is assumed that a new Administrator, when appointed, may elect to institute appropriate techniques for such an activity.

No determination has been made at this time regarding the specific projects to which the revised project management policies, procedures, and practices are expected to be applied. It would be reasonable to assume, however, that they will be applicable to all future major projects and that decisions will be made on a case-by-case basis with regard to ongoing projects, taking into account various factors, including their present maturity.

In Dr. Hearth's statement, he referred to instances where program proposals had reflected unwarranted optimism on the part of the program supporters and did not contain adequate resources for unexpected contingencies. A major thrust of the recommendations of his study is that projects be adequately defined in a realistic manner early in their life cycle. For example, he has proposed the establishment of an independent review committee of technical specialists to advise the Associate Administrator on the schedule, cost, and technical risks for each major new project.

QUESTIONS SUBMITTED BY SENATOR PROXMIRE

LANDSAT COST/SCHEDULE

Question: Until the recent budgetary cutbacks Landsat-D′ was scheduled for launch during the third quarter of calendar year 1983. The launch is now scheduled for 1985. What is the estimate of costs associated with this delay, i.e., cost of storage, maintenance and repair? What is the possibility of some of the equipment degrading from nonuse during this period and requiring replacement?

Answer: The detailed costs associated with storage are still being developed. If no significant modifications are required due to possible Landsat-D flight anomalies, the costs are expected to be in the range of $4 million-$8 million. Periodic spacecraft and instrument tests are planned to verify performance and satisfactory system operation during the storage period. With such periodic tests and systems operation, the probability of equipment degradations necessitating replacement is small.

Question: According to Hughes Aircraft Company′s variance proposal #5 dated March 4, 1981, the delivery date for the Bench Test and Calibration Equipment (BTCE) #2 was scheduled for November 1980. This date is long past. Currently there is no contractor deadline for this piece of equipment. Why hasn′t the schedule for this equipment been redefined?

Answer: The schedule for the acceptance test of the BTCE unit was redefined shortly after variance proposal #5 was submitted. BTCE #1 acceptance was changed from April 1981 to November 1980 and BTCE #2 acceptance was changed from November 1980 to April 1981. The switch in readiness between the two units has improved program efficiency and has had no negative impact on the Thematic Mapper (TM) program.

Question: In the event the TM is not delivered on time, would NASA delay the launch of Landsat-D? How long of a delay would NASA consider?

Answer: The TM integration schedule, in support of the schedule Landsat-D launch date, is being maintained; NASA does not expect the delivery of this instrument to delay the third quarter 1982 Landsat-D launch. Should some unforeseen difficulty result in delay of delivery of the TM, the decision to delay launch would depend on the nature of the difficulty, the estimated time for correction, and the estimated costs associated with the delay and corrective action.

Question: During the Landsat program′s rebaselining, NASA tranferred some responsibilities from the mission contractor (GE) to Goddard.

What was the increased cost to the Government including civil service salaries?

Was the GE contract reduced? If so, how much?

Answer: The transfer of certain responsbilities from GE to GSFC resulted in a net cost decrease to the Government. The GSFC in-house research and development costs for the transferred work are approximately $1.6 million. In addition, approximately 27 man-years of civil service manpower are required. The comparable GE proposed costs were $5.2 million.

Question: During rebaselining NASA tried to defer some expenditures to later fiscal years. It has been proposed, rather than purchasing certain equipment and providing it to GE as Government furnished equipment, to have GE purchase the equipment, lease it to NASA, and then later NASA would purchase the equipment from GE.

Has this proposal been approved by NASA?

How much would this increase the Government cost above the original plan to have the equipment furnished by the Government?

Is it an evolving NASA policy to defer costs through lease/buy back operations?

Answer: The equipment involved was never planned as Government furnished equipment, but was always planned as contractor furnished equipment. The lease arrangement has been approved by NASA. This arangement is consistent with the project funding plan and schedule and has been undertaken to avoid larger potential costs involved in schedule delays. No policy changes are involved. Decisions of this nature are made on a case-by-case basis.

SHUTTLE RETRIEVABILITY

Question: We understand that excess weight of the Shuttle's cradle which is used to retrieve Landsat-D and an increase in Landsat's weight prohibits its retrieval by the Shuttle. Would it be a major undertaking to redesign the Shuttle to make it capable of retrieving the Landsat-D? What would it cost to redesign the Shuttle for Landsat retrieval? Is it still considered cost effective to retrieve and re-launch Landsat satellites?

Answer: Based on present information regarding Shuttle performance, coupled with the Landsat-D deorbit propulsion cpapability, retrieval can be accomplished. No Shuttle redesign is necessary or contemplated.

A first attempt to retrieve Landsat-D must be designed and implemented as an experimental procedure, since uncertainties regarding optimum procedures, costs, and timeliness cannot be resolved until some experience with retrieval is gained. Only by actually accomplishing retrieval, examining the types and severities of actual on-orbit degradations, and determining the required refurbishment, can the cost effectiveness of retrieval be determined.

Question: How much would it cost to add the necessary software and any required modifications to the ground segment to enable retrieval of the Landsat spacecraft?

Answer: Estimates for the costs for the control center capability to accomplish retrieval have not been completed. The major elements of cost are the software and the control interfaces between the Landsat Control Center at Goddard Space Flight Center, the Shuttle, and the Shuttle Control Center at Johnson Space Center. The Landsat-D spacecraft is designed to be Shuttle retrievable; however, an actual retrieval plan has not been developed.

Question: The expense incurred in making the spacecraft retrievable will serve no purpose unless the Shuttle retrievability requirement is reinstated. What are NASA's plans in this area?

Answer: Retrieval can be accomplished, and NASA intends to maintain this capability.

REMOTE SENSING

Question: Does NASA plan to go beyond the Landsat-D' launch with the current Multispectral Scanner (MSS) and Thematic Mapper (TM) type equipment or are you thinking and planning on the next generation of remote sensing? If so, what type of remote sensing is being considered?

Answer: NASA has no plans to refly the MSS or TM; any such plans would be the responsibility of the operator of the system. NASA is looking towards the development and test of advanced sensors such as the Multispectral Linear Array and Synthetic Aperture Radar. Other specialized sensors are also being considered such as a multiband thermal infrared instrument. These experimental sensors will lead to exploitation of more regions of the electromagnetic spectrum to develop new applications and to acquire new types of data for established applications.

Question: The French are currently developing a multilinear array remote sensing system with 10-meter resolution. If successful, what effect will it have on NASA's future research and development of remote sensing devices?

Answer: We feel that the French SPOT 10-meter system may be complementary to the Landsat systems. We are interested in determining the utility of 10-meter and 20-meter SPOT data versus the 30-meter Landsat data for certain limited applications. Unlike Landsat's TM, the SPOT system does not detect in the short-wave infrared or thermal infrared regions outside the visible portion of the electromagnetic spectrum. It, therefore, has limited utility to several promising areas of research such as detection and characterization of vegetative stress and classification of hydrothermally altered clays (which are significant in mineral exploration). There is also reason to doubt that the SPOT ground system will be capable of producing the high volume of data products which the current and potential user community may require. Advanced research, development, and testing of sensors by NASA will continue regardless of the "success" or "nonsuccess" of the SPOT instrument.

Question: The French are aggressively marketing their remote sensing system, SPOT, both overseas and in the United States and expect to have an operational system in the mid to late 1980's.

Will the SPOT, with its higher resolution, draw from the MSS/TM user community?

What effect would a successful SPOT system have on the Landsat program eventually being taken over on an operational basis by the private sector?

Would there be any need for further research and development by NASA in the area of remote sensing if the French (and Japanese) system proves to be acceptable to most users?

Will the United States have open access to SPOT data?

Has consideration been given, if SPOT is successful, to funding research to analyze and use SPOT output?

Answer: A limited segment of the remote sensing community is interested in exploring the utility of the 10-meter resolution SPOT data. A majority of the users are expected to be satisfied with the 30-meter resolution of the TM. Many important segments of the user community regard increased spatial resolution as far less important than the multispectral capabilities offered by the TM.

A "successful" SPOT program could help to further expand the market for U.S. remote sensing data products by creating new interest in remote sensing techniques in general. In this regard, it will help the market development efforts of the private sector entity which will be operating Landsat.

There is a definite need for further research and development by NASA even if the French and the yet-to-be-defined Japanese systems are acceptable. The main research and development required will be associated with short-wave infrared, thermal infrared, and microwave systems, as well as information extraction techniques. In this way, the potential utility of remote sensing can be realized and its applications broadened in areas that have not been developed.

NASA is unable to answer the question of data access for all U.S. users. However, we have queried the French as to the possibility of obtaining certain SPOT data for NASA research purposes. We have indicated to the French that NASA may wish to obtain SPOT data to research the uses of visible 10-meter and 20-meter data as opposed to 30-meter data. The reply that we received from the French indicates that they are willing to commit to meeting only a small fraction of NASA requirements.

Question: What resolution and capabilites will the multilinear array (MLA) have over current multispectral scanners that justify initiating a program that would cost $200-300 million or more?

Answer: A multilinear array (MLA) instrument will have a capability for much greater spectral resolution and the potential to be reprogrammed from the ground in near real time to acquire data in different regions of the spectrum in very narrow bands. Additionally, the MLA sensor is electronically adaptable to a wide range of orbital altitudes. This offers a new and useful mission flexibility beyond a mechanical scanner and would permit high spatial and spectral resolution to be obtained at lower altitudes with the same sensor design.

Other capabilities of the MLA sensor include:

1. An inherent geometric precision due to the absence of a mechanical scanning mechanism and the fixed and precisely aligned and positioned detector arrays. These attributes provide for significantly simplified ground processing to achieve data which is registered to geodetic reference points.

2. The spectral channels are inherently registered. No data resampling and other complex and expensive ground processing of the data are required to achieve precise spectral registration.

3. The MLA sensor will be a pointable system with off-nadir and along track pointing capability. This will provide the means for high resolution stereo imagery and the acquisition of cloud-free coverage in a shorter time.

4. The MLA sensor has significant growth potential and mission flexibility. Very high spatial resolutions and narrower spectral bands are possible because of the higher signal to noise ratio resulting from the MLA pushbroom mode of sensing. Scanners such as the TM appear to be nearly at the limit of their performance capability with very limited potential for improvement.

In view of the inherent capabilities and potential of the MLA, it is clear that implementation of MLA technology as a satellite system will lead to a quantum improvement in the quality of Earth observation data. Initiation of an orderly investment in MLA technology is a sound approach in realizing the known and unanticipated benefits in a future land remote sensing system.

Question: A German group at the University of Munich claims to have produced three-dimensional images. Therefore, why is it necessary to spend millions of dollars for an MLA program to produce steroscopic imagery for mapping and geological applications?

Answer: Our understanding is that the German group is generating stereo images by using MSS imagery of terrain which has been overlapped by the Landsat satellite. The current MSS on Landsat can only produce partial stereo pairs. The stereo pairs can be derived from the less than 10 percent overlap of the orbital swath on different days. The base over height (B/H) ratio for this side lap is only approximately 0.1 leading to very poor and limited three dimensional perspective and terrain relief from the stereo pairs. On the other hand, MLA, with its pointable mirror, will have the capability to provide high resolution stereo pairs with B/H ratios of .5 or higher from which accurate terrain relief can be obtained. MLA will thus provide a topographical mapping capability that will greatly exceed the geometric quality of stereo data that can be derived from the Landsat data.

Question: When will NASA direct its Earth observations to discovering and assisting in the development of renewable energy resouces such as geothermal energy?

Answer: NASA has an ongoing research and technique development activity to classify land cover, estimate biomass, and assess the productivity of agricultural, forest and rangeland. This research, which could support evaluations of biomass energy production, will be extended to smaller areas with the higher resolution and improved performance of the Thematic Mapper. We are also planning improved thermal infrared (TIR) sensors for future satellites in special orbits based on the technology of the heat capacity mapping mission and the Thematic Mapper. These improved TIR sensors could contribute to improved mapping of geothermal surface features. In addition, some of the information extraction techniques we are developing can provide the capability to detect thermal anomalies, and we will continue trying to improve this technology.

Question: There are many recently discovered geothermal resources in the East, such as Maryland, Delaware, and Virginia, with temperatures high enough to be considered economical by many geothermal experts. Geothermal resources, such as oil and other minerals, can be identified not only by heat but also by associated characteristics such as the type of clay or vegetation. What progress have you made and what are your future plans in this area?

Answer: NASA has conducted research in aircraft jointly with the United States Geological Survey and industry on the Thematic Mapper Simulator Scanner. This research has demonstrated the enormous potential of short-wave infrared (SWIR) techniques for detection of clays associated with hydrothermal mineral deposits and in geological units. NASA plans to test the feasibility of improving the discrimination of geological units associated with hydrothermal deposits with the Shuttle Multispectral Infrared Radiometer (SMIRR) to be flown on the second Shuttle engineering test flight (STS-2) in late 1981. Based on the results of this mission, additional SWIR wavelength bands will be identified for solid state imaging sensors planned for geological and geobotanical investigations later in the decade.

Question: Satellite sensor data can be used to detect subsurface water as shown from experiments in Arizona, Nigeria, and Egypt. What programs or efforts has NASA initiated to provide this information to countries suffering from droughts?

Answer: NASA data is placed in the public domain and is available to these countries from foreign or domestic dissemination facilties. The Department of the Interior and the Department of State's Agency for International Development provide training for scientists from foreign countries. The NASA charter does not extend into the area of foreign assistance, except in possible joint endeavors with and for the Department of State.

Question: NASA has installed a multispectral scanner of only 100-meter resolution on the Shuttle. What was the purpose of the scanner on the Shuttle?

Answer: The instrument on the Shuttle is not a scanner but a research radiometer which measures radiation in 10-wavelength bands. The purpose of the radiometer is to determine which wavelength bands in the short-wave infrared are optimal for discrimination of rocks and soils associated with mineral deposits. Once these bands are known, scanners can be efficiently designed and tested for resource applications.

Question: Millions, perhaps billions of dollars, have been spent by NASA and NOAA to develop and fly sensors to observe the Earth's resources. Additional funds have been allocated to interpret the data for useful applications. How does NASA rank the national or world objectives to which these funds will be directed, i.e., disaster assessment, discovery of oil and strategic metals, etc.?

Answer: NASA identifies national concerns by working closely with users and the Federal executive and legislative branches. Our programs are designed in part to meet as many of these national needs as possible within budgetary guidelines.

NOAA

Question: Now that EROS will be distributing Landsat-D data to users, wouldn't it be more prudent to also give them the capability to distribute Thematic Mapper (TM) data when it becomes available, rather than providing NOAA with a duplicate facility at the GSFC location?

Answer: Present plans call for the EROS Data Center to distribute both Thematic Mapper (TM) and Multispectral Scanner (MSS) data to the user community. The facility at GSFC is necessary to control spacecraft and to accomplish the necessary geometric and radiometric corrections to the TM and MSS raw data. The GSFC facility is not redundant to the EROS facility; the two facilities complement each other and possess their own unique capabilities. The EROS Data Center is the distribution center and GSFC is the control and data pre-processing center.

Question: What is the justification for having NOAA manage the "operational" Landsat-D program? Wouldn't it be better if one agency were responsible for acquisition of the data, and its processing and distribution? Since EROS has the distribution facility and personnel in place, and requires only minor upgrading, wouldn't it be more practical if only "one face" were presented to the data users by having the United States Geological Survey manage the Goddard facility? Could the Landsat program be directly transferred to the public sector without going through the NOAA interim operational phase?

Answer: The original justification for NOAA management of the operational Landsat program was based on their experience in managing other operational space systems.

The upgrading of the EROS Facility for both the processing and dissemination function for the operational Landsat-D data would be a major and costly undertaking. The EROS Data Center plans to continue to operate the data distribution facility in the Landsat-D time frame for both MSS and TM data.

It is possible that the responsiblity for the operational Landsat could be transferred directly from NASA to the private sector. The Administration is currently reviewing plans for private sector ownership and operations.

USER INFORMATION

Question: The benefits of Landsat-D and its success as an interim operational system depend on user willingness to use the data. Some users have expressed concern over the prospect of Landsat-D data costing even more than data from Landsat-2 and Landsat-3.

How will the cost of Landsat-D TM and MSS scenes and tapes compare with the cost of Landsat-2 and Landsat-3 MSS data?

How will a price increase affect the number of users?

Will the availablity of TM data significantly increase data sales?

Answer: The formulation of the costs of Landsat-D data products is a NOAA responsibility. NOAA is currently considering all factors associated with pricing and will report back to OMB next month. It is NASA's feeling that the demand of the serious users would not be greatly affected by reasonable price increases.

The improved spectral and spatial resolution of the Thematic Mapper is expected to increase demands for Landsat data. These improvements are necessary to realize the potential of remote sensing applications in a wide variety of disciplines such as agriculture and geology.

Question: When TDRSS is operational, the United States will have the capability to receive sensor data from almost anywhere in the world. In the pre-TDRSS era, there are plans to receive and process data collected at four foreign ground stations.

What restriction, if any, will be applied to the data being made publicly available?

Who determines access to the data?

Answer: NASA Memoranda of Understanding with foreign ground station operators specify that operators must make Landsat data accessible to any customer. Should data be denied to legitimate requestors for reasons not related to technical or operational constraints, it theoretically would provide the basis for abrogating our agreement with the offending operator.

Question: In November 1979, NOAA was directed to prepare a plan to transition from the experimental Landsat program to a fully operational system, with the goal of eventual operation by the private sector.

As the result of recent budget cuts, achieving this goal appears less likely. If Landsat-D' is to be the last Federally-funded satellite in the Landsat series, can we expect the users to fund the development and operational costs of a remote sensing system?

Why would users be willing to pay for the entire costs of a Landsat system when they refused to fund the MSS which was placed on Landsat-D at their request and also refused even to share the cost of the Stereosat spacecraft designed for their benefit?

Answer: The Administration's plans are to move the civil remote sensing systems into the private sector after Landsat-D and -D'. NOAA is formulating the plans for this transition and is expected to complete them over the next year. Funding the operational systems which succeed Landsat-D' would, therefore, be the responsibility of either NOAA or the private sector. NASA will continue research, development, and test activities in remote sensing to maintain the U.S. technological lead and to explore new opportunities for applications.

The MSS situation during the Landsat-D formulation is not analogous. At that time, other Federal agencies were requested to fund the MSS. These agencies stated that developing and funding space research and development was NASA's responsibility. Consequently, they felt that funding space hardware to be flown by NASA was not a legitimate expense for their respective agencies. The Stereosat users voiced similar objections to funding the development portion of the costs.

Question: Data acquired from earlier Landsat satellites has been improperly stored and allowed to deteriorate. A number of users believe all the data should be archived rather than selecting a few scenes from each year's data. They further believe that its value has not been fully exploited and should be retained for future use. What measures would be necessary to preserve all the data? What would it cost to prevent further deterioration and proper storage of current and future data? Associated cost? If NASA believes preserving and storing the tapes to be too expensive, have they considered auctioning the tapes to the private sector?

Answer: All Landsat data has been and will continue to be archived. Between 1972 and 1979, the major Landsat archive consisted of film masters and raw data tapes. For retrospective orders of computer compatible tapes (CCT's), the original raw data tapes and ancillary tapes containing attitude ephemeris were utilized. Some degradation of these earlier tapes has occurred.

To protect against further loss of old (1972-1979) Landsat data, it was decided, based on EROS Data Center reviews with the user community, to produce CCT's of all significant earlier Landsat data.

Since 1979, the archive medium has been changed from film to High Density Tapes (HDT's). These HDT's are stored in a temperature and humidity controlled vault at EROS Data Center and are subjected to periodic rewinds to prevent tape degradation.

For Landsat-D, it is planned to archive the MSS data at the EROS Data Center in the manner described above. For TM data, the major archival medium is also expected to be high density tape. NASA/NOAA are investigating an appropriate storage facility (with temperature and humidity controls) at or near GSFC to minimize the degradation potential for Landsat-D data. The costs for these facilities are included in the NOAA operational budget.

Question: Some users have indicated that Landsat has been a valuable tool when used with other data in the discovery of new crude oil sources. TM is expected to play an even grater role in oil exploration. Do you expect the current Landsat program to significantly and measurably affect the energy crisis or assist in the discovery of new sources of strategic metals in short supply?

Answer: The current Landsat-1,-2, and-3 programs have already played a significant role in oil exploration. Most of the major oil companies have now purchased worldwide MSS data sets for their private use, and it is unlikely that they will purchase significant additional quantities of MSS data. The companies are now interested in acquiring high-resolution Return Beam Vidicon (RBV) data. These RBV data sets will be extensively used, probably through the end of the century. The data collected by the Landsat program continues to be the single uniform data set which is available to exploration geologists for global reconnaissance surveys of resource potential. Landsat data has proven to be a valuable reconnaissance tool for mineral and energy exploration in major frontier areas such as Africa, South America, and Asia. Furthermore, past experience has shown that certain unique types of geological information can be derived from Landsat data with regard to crustal structure (e.g., faults, folds, etc.) and composition (e.g., iron staining, clay mineralogy, etc.) which is useful for follow on investigations in well explored areas such as North America. The additional spectral bands on the Landsat-D Thematic Mapper will provide new types of information and we anticipate that U.S. oil and mineral companies will be among the major purchasers of Landsat data during the 1980's.

Question: Some users feel that NASA has oversold the Landsat program. The feeling resulted from the inability to obtain data on a timely basis, lack of quality control and schedule slippages in launching Landsat-D. However, in the last year and a half there has been improvement in providing the data on a more timely basis.

Has the overselling resulted in users investing funds and being able to realize only limited benefits, and thereby becoming discouraged or losing interest in its potential benefits?

Answer: NASA's efforts at educating potential users of Landsat data and making the benefits of Landsat data available to large numbers of people and institutions cannot be accurately characterized as "overselling." Expectations of users have, in some cases, been unrealistically high regarding a system that was designed and built as a research vehicle. The extent to which we have been able to routinely service operational needs of users has, we think, been remarkably successful in view of the research nature of Landsat.

Some users may have been discouraged by earlier problems in service and quality control. However, over the last year and a half, the timeliness and quality of the data has significantly improved. NASA is not aware of any users that have invested funds in equipment and, subsequently, lost interest in Landsat data applications.

SHUTTLE DEVELOPMENT PROBLEMS - MAIN ENGINES

Question: You are requesting $232 million for the Shuttle's main engine in FY 1982, including production costs.

As I understand it, NASA's current 5-year plan says that extension of the Shuttle's main engine operating envelope will be required for the Shuttle to deliver 65,000 pound payloads into orbit from the Kennedy Space Center. In addition, thrust augmentation will be required to deliver 32,000 pounds into orbit from Vandenberg Air Force Base. Is this the case?

Answer: In addition to the basic engine development and production activities, the $232 million request for Shuttle main engine in FY 1982 provides for 109/109 percent thrust power level testing and certification, and does not extend the engine operating envelope. This power level is adequate to deliver 65,000 pounds of payload capability into orbit from Kennedy Space Center. Our present estimate is that for a 2-man/1-day delivery only mission, the capability at Vandenberg Air Force Base will be 31,300 pounds. However, thrust augmentation is required to provide a payload capability of 32,000 pounds for a 4-man/7-day delivery and retrieval mission from Vandenberg Air Force Base. Several options are being studied to gain this additional performance; only one is an uprating of the Shuttle main engine.

Question: How many pounds of payload can you place into the standard low-Earth orbit with each of the four orbiters if you run the engines at the Rated Power Level (RPL) and do not use a lightweight external tank and lightweight solid rocket boosters (SRBs)? At 109 percent of RPL?

Answer: At the 100 percent and 109 percent main engine power levels, with a 2-man/1-day mission, with the heavyweight external tank and without the lightweight solid rocket boosters, our current estimate is that the following payload capabilities can be achieved:

Orbiter	100%/109% SSME Payload Capability	109%/109% SSME Payload Capability
OV-102	48,000 lbs	57,000 lbs
OV-099	53,000 lbs	62,000 lbs
OV-103	56,000 lbs	65,000 lbs
OV-104	56,000 lbs	65,000 lbs

It should be noted that both the lightweight external tank and solid rocket booster are baselined in the current program. In fact, no more heavyweight tanks exist after number 6. With the lightweight external tank and solid rocket boosters, the payload capabilities are estimated as follows:

Orbiter	100%/109% SSME Payload Capability	109%/109% SSME Payload Capability
OV-102	54,500 lbs	63,500 lbs
OV-099	59,500 lbs	65,000 lbs **
OV-103	62,500 lbs	65,000 lbs **
OV-104	62,500 lbs	65,000 lbs **

**Performance capability limited to 65,000 lbs due to structural constraints.

Question: What percent of RPL is required for each orbiter to put 65,000 pound payloads into low-Earth orbit from Kennedy Space Center without the lightweight external tank and SRBs?

Answer: To place a 65,000 pound payload into Earth orbit at Kennedy Space Center without lightweight external tank and without lightweight solid rocket boosters for a 2-man/1-day mission, the main engine power levels are approximately:

Orbiter	SSME Power Levels	
*OV-102	115/115	64,500 lb payload
OV-099	113/113	65,000 lb payload**
OV-103	109/109	65,000 lb payload**
OV-104	109/109	65,000 lb payload**

It should be noted that both the lightweight ET and the SRBs are baselined in the current program. In fact, no more heavyweight tanks exist after number 6.

*Maximum currently considered thrust increase is 115 percent. Planned weight reductions are, therefore, required to achieve greater payload capability.

**Performance capability limited to 65,000 lbs due to structural constraints.

Question: What percent of the RPL is required for each orbiter to put 65,000 pound payloads into low-Earth orbit from Kennedy using the lightweight external tank and lightweight solid rocket boosters?

Answer: The main engine power levels required to place a 65,000 pound payload into Earth orbit at Kennedy Space Center with a lightweight external tank and lightweight solid rocket boosters for a 2-man/1-day mission are estimated as follows:

Orbiter	SSME Power Levels	
OV-102	111/111	65,000 lb payload*
OV-099	106/109	65,000 lb payload*
OV-103	103/109	65,000 lb payload*
OV-104	103/109	65,000 lb payload*

*Performance capability limited to 65,000 pounds due to structural constraints.

Question: Please provide the same information regarding the launch of 32,000 pounds into low-Earth polar orbit from Vandenberg AFB with and without thrust augmentation.

Answer: During the Western Space and Mission Center (WSMC) operational period, lightweight external tanks and solid rocket boosters will be an integral part of the Space Shuttle system and OV-103 and OV-104 will be operational. It is not intended, therefore, to introduce any heavyweight flight hardware (including orbiter) back into the WSMC missions.

For a 2-man/1-day, delivery only mission, projected capability is as follows:

Orbiter	100%/109% SSME Payload Capability	109%/109% SSME Payload Capability
OV-103	22,300 lbs	31,300 lbs
OV-104	22,300 lbs	31,300 lbs

The required WSMC capability for Performance Reference Mission 4 is: 4-man/7-day, deploy 32,000 lb payload and retrieve 25,000 lb payload in a single flight. For such a mission, the projected capabilities are as follows:

Orbiter	109%/109% SSME Without Performance Augmentation	109%/109% SSME With Performance Augmentation*
OV-103,104	24,000 lbs	32,000 lbs to 39,000 lbs

*Payload increase will range from 8,000 lbs to 15,000 lbs depending upon which performance augmentation option or combination of options is selected.

Question: What modifications will have to be made to the engines to achieve these required percentages of RPL and what will these modifications cost?

Answer: The main engines (Flight Set #1) currently on the Columbia have been certified for mainstage operation of 102 percent RPL and have demonstrated 109 percent abort capability (102 percent/109 percent). Development of the 109 percent FPL (Full Power Level) engine is now underway with initial certification (at 109 percent) scheduled for December 1982. The remaining development effort of approximately $300 million is mainly effort on the 109 percent FPL engine, but this also includes remaining development spares, purchases, and orbital flight test support as well. The major modifications incorporated in the FPL (109 percent) engines involve changes in the hot gas manifold between the fuel preburner and the main injector along with material changes in the LOX posts for the main injector. These changes are required to increase engine life at 109 percent. Uprating to 115 percent RPL is being studied along with other performance improvement options (a filament-wound solid rocket case, for weight reduction, and a liquid booster module). A decision among these options will be made in 1982. By that time, the engine modifications required for 115 percent RPL and their costs should be defined. Current judgments are that engine modifications and costs may not be extensive.

Question: NASA initially estimated that the main engines could be used 55 times before overhaul. NASA's current estimate on the number of uses is 40. Why has the projected reuse of the engines before overhaul decreased from 55 to 40?

Answer: NASA has, for planning purposes, assumed an increasing number of uses for each set of flight engines. Specifically, the first flight set has been certified for ten flights. The second flight set (engines for Orbiter 099) are assumed to be used for twenty flights. The third set for thirty and the fourth set for forty flights before overhaul. With the current mission model, it would be after 1989 before any flight set would be needed for more than forty flights. In the meantime, NASA has not reduced the original goal of fifty-five flights between overhauls. It is currently planned to demonstrate this capability through ground testing in what we are calling the life growth development program. This effort is, in practical terms, an extension of the FPL (109 percent RPL) certification effort and is scheduled for completion in 1987. Thus, the projected reuse of the engines before overhaul has not been decreased from fifty-five to forty.

Question: How many additional engines will be required because of the decrease in reuses before overhaul and what is the impact on turnaround time, flight rates and cost per flight?

Answer: The time required to overhaul an engine is not sufficient to require additional new engine production under either a forty flight or a fifty-five flight model before overhaul assumption. Therefore, NASA does not plan to purchase any more engines than our previous plan which is one set of engines and one spare for each orbiter plus one set of engines in overhaul at any time for a fleet of four orbiters.

Question: If the main engines were modified to fly at 115 percent of RPL, what impact would this have on reusability?

Answer: As mentioned in a previous answer, we are currently studying the option of upgrading the main engines to 115 percent. It is possible that modification could be designed such that reusability characteristics would remain the same, i.e., forty to fifty-five flights. It seems likely, however, that a 115 percent engine could be achieved with fewer modifications, and therefore, lower cost, if some reusability reduction is traded-off for the 115 percent RPL. These are some of the issues that will be considered during the study of the 115 percent uprating.

Question: What impact would 130 percent of RPL have on reusability?

Answer: In order to obtain 130 percent of RPL, major changes to the engine, as well as other Shuttle systems, are required. The requirements for a 130 percent engine along with other Shuttle system modifications is currently not being actively considered.

ORBITER STRUCTURE

Question: NASA announced in February 1980 that during wind tunnel and other testing the underside of the center body of the orbiter payload compartment was found to be understrength and that several fixes to stablize the stringers to take stresses without buckling were considered. What is the status of the orbiter structural problem and the estimated cost to correct it? What will be the weight increase of the four orbiters and how much will their payload carrying capability be decreased?

Answer: The structural loads problem referred to in early 1980 was due to an updated trajectory analysis. The design modifications necessary for these increased loads (known as 5.4 loads) have been defined and plans completed for implementation on vehicles 102, 099, 103 and 104. Some of the modifications to OV-102 have been deferred until after completion of orbital flight testing (OFT), and if the flight results indicate they are not all required, they will not be made. The 099/103/104 changes have been included in the primary vehicle manufacturing build. The total cost estimated for 5.4 load modification to orbiter for all four vehicles including Design, Development, Test and Evaluation (DDT&E) is approximately $18 million.

The weight increase and reduced payload capability for OV-102 is approximately 650 lbs and OV-099 is approximately 700 pounds. For vehicles OV-103 and OV-104, the equivalent number is approximately 350 pounds.

THERMAL PROTECTION SYSTEM

Question: NASA has experienced technical problems with the thermal protection system (TPS) during development. Thousands of tiles had to be redensified and reglued at Kennedy Space Center (KSC) prior to the first flight in March of this year. The filler between the tiles came loose during early flight tests?

How many tiles were lost from the Columbia during its first flight?

Answer: One complete tile and 15 segments were lost from the orbital maneuvering system pods. Two mini-titles were lost from the right hand side of the fuselage and one from forward of the right hand window. All these were low temperature tiles in relatively benign areas. These were undensified diced tiles and will be replaced with densified diced tiles which will be stronger and we expect no problem on the next flight.

Question: How many of the lost tiles had been reworked at KSC prior to the launch?

Answer: These tiles were not reworked at KSC to provide an improved bonding surface (densification) but were proof tested and diced (a process where a full tile is cut into segments to relieve stresses) on the vehicle. Current analyses indicate that dicing on the vehicle weakened the Sip (Strain Isolation Pad) to tile bond. These will be densified and diced off the vehicle and bonded in place of the ones we lost. No further problems are anticipated. We did not lose any tiles that had been densified.

Question: How many tiles do you estimate will have to be replaced on the Columbia before the second flight?

Answer: The vehicle is currently undergoing a detailed inspection to determine necessary TPS work. This inspection is about 50 percent complete. Our best estimate at this time is that 100 tiles sustained damage necessitating replacement. Another 100 were dispositioned prior to STS-1 as acceptable for one flight. These are being reevaluated. In addition, about 50 tiles will be added to the orbital maneuvering system pod where tiles were not previously installed. Another 500 tiles will be removed and densified. Therefore, at this time we are estimating approximately 700-800 are going to be replaced.

Question: How does this replacement rate compare with your initial projections?

Answer: Different projections were made at different times during design and development ranging up to 2 percent (600 tiles). We are optimistic after STS-1 that the tiles will perform as advertised or better and the replacement rates should be less than 1 percent and as low as 0.5 percent.

Question: How did the tile filler withstand the first flight?

Answer: The gap filler problem previously referenced has to do with a failure in the gap filler between the leading edge and the tiles which occurred during the early flight testing on high performance aircraft at Dryden Flight Research Center. This problem dictated some minor design changes to the gap filler. Subsequent flight tests were satisfactory. The installation on Columbia worked without any problems.

Question: How much time will be required to repair the TPS before the second development flight?

Answer: Detailed work plans are being generated, depending on findings of the inspection currently underway. The TPS work is not pacing the preparation for STS-2. Preliminary plans call for TPS work to be complete by the third week of July which amounts to approximately twelve weeks of activity in the orbiter processing facility.

Question: Based on the experience gained with the TPS during the first flight, what do you now expect the average turnaround time will be over the first 3 years and do you still expect to achieve the minimum turnaround time of 2 weeks within 3 years of operations? (If not) What do you now expect the 3 year minimum turnaround time will be?

Answer: We are very optimistic about the tile performance. The tile repairs developed to repair coating and tile damage prior to STS-1 worked very well and are acceptable for additional flights. The gap fillers sustained much less damage than anticipated and will, in most cases, not have to be replaced. Based on the results of this first flight the orbiter TPS should not constrain the overall STS turnaround times. The current flight schedule for the first three years of operations does not require turnaround times on the order of two weeks. The minimum required turnaround during the FY 1983-FY 1985 period is approximately five weeks, based on the present flight schedule.

Question: What new concepts is NASA considering developing to improve or replace the thermal protection system for the Shuttle and what is the estimated cost of each of these concepts?

Answer: A felt blanket is currently used to protect about 3,000 square feet of the orbiter in areas which see 750^{0}F or less. An improved blanket, Advanced Flexible Reusable Surface Insulation (AFRSI), is being evaluated which would protect against temperatures up to 1,200°F. If successful, this blanket could be used to replace all the white tiles. These tiles are the thinnest, most fragile and in the most exposed areas during shop work. The development cost of this change is $2 million. Total implementation cost has not yet been finalized.

Some of the tiles on Columbia contain 2 percent silicon carbide to provide high emissivity of the tile material. Thus, if the high emmitance coating is lost, the heat energy will continue to be rejected instead of damaging the tile. To incorporate this on all vehicles will cost $1.0 million for development/test/materials. At this time, the requirement for this is still being evaluated.

A higher strength tile has been developed (Fibrous Refractory Ceramic Insulation (FRCI)) by adding about 20 percent alumina-borosilicate fibers to the basic silicon dioxide fibers. The strength is about double and would allow significant weight reduction (approximately 1,050 pounds on OV-103 and OV-104) as well as providing higher strength margins. The development, facility, materials, and implementation costs are approximately $15,000,000.

A search is being made for strain isolator material with better properties than that currently in use. We have not found anything that would be a suitable replacement.

Our earliest vehicle effectivity for the above is as follows:

OV-099	AFRSI on OMS pods only (FRCI on a replacement basis)
OV-103	All AFRSI and FRCI
OV-104	All AFRSI and FRCI
OV-102	AFRSI/FRCI (On a replacement basis)

Question: Will the changes in the thermal protection system be charged against Shuttle Design, Development, Test and Evaluation (DDT&E) production, or operations costs?

Answer: The advanced TPS is a contractural element of the follow-on (production) orbiter development contract and will accordingly be costed in Shuttle Production.

Question: What are the results to date of the $900,000 Rockwell study to investigate an alternative thermal protection system for the orbiter?

Answer: To date, the contractor has completed a detailed evaluation of a number of alternate concepts and is currently developing programmatic trade-off data in terms of comparative cost and technology requirements. A review of these data by NASA is tentatively planned for late June and submittal of final reports is scheduled for October 1981.

ON-ORBIT TILE REPAIR

Question: I understand that NASA has accelerated the development of the Manned Maneuvering Unit (MMU) in order to have on-orbit inspection and repair capability for the thermal protection system (TPS). Apparently NASA has also issued a contract to Martin Marietta Aerospace, Denver, Colorado, to develop a repair kit for use in making on-orbit repairs to the TPS.

What will the total development/production cost be to NASA for the MMU's and how many units will be provided?

Answer: Two manned maneuvering flight units will be provided. The cost of approximately $45 million includes development and extensive environmental qualification testing.

Question: What will be the total development/production cost to NASA for the repair kits and how many kits will be provided?

Answer: In addition to the MMU, the on-orbit repair system requires two elements: Tile Repair Kit and Work Restrain System. One of each was to be provided. The estimated cost for these two developments was approximately $20 million prior to termination of the development activities.

Question: What is the weight of the MMU and the repair kit and what effect will this additional weight have on the Shuttle payload weight carrying capacity?

Answer: The total weight of the on-orbit TPS inspection and repair system is estimated to be about 1,100 pounds. (This includes the weight of another major element in the system, the Work Restraint System, not cited in the question.) Carrying the on-orbit TPS inspection and repair system would reduce payload weight carrying capacity by 1,100 pounds.

Question: What, if any, additional costs will NASA incur for crew training in the use of the MMU and TPS repair kit?

Answer: Since the on-orbit TPS inspection and repair system has now been terminated except for the MMU, there will be no additional costs for crew training in connection with such a mission. There is no estimate of training cost connected with the use of the MMU since that will vary with the mission and there are, at present, no missions well enough defined to provide a quotable training cost projection. Normal salary and travel expenses, however, have been incurred for astronaut participation in development and testing of the hardware, and this will continue in connection with the MMU.

Question: Will NASA recover any of the MMU and TPS repair kit costs from Shuttle users?

Answer: It is planned to offer the MMU as a service to STS users for extravehicular activity operations for which an appropriate charge will be levied. In general, user charges are not calculated to recover development costs. The TPS repair kit is not likely to be of interest to users.

Question: What is the extent of TPS repair that an astronaut can make on orbit?

Answer: The on-orbit tile repair system was sized to handle five areas measuring 18x36 inches each. Repair material carried on a single flight would be sufficient for this assuming not all damage occurred in areas of maximum tile thickness.

Concerns with respect to structural integrity of the TPS were resolved prior to STS-1 through engineering analyses, qualification tests, and proof testing of actual flight tiles on the orbiter, Columbia. In this process, careful attention was given to critical areas and isolated tile loss in other noncritical areas was judged tolerable. The repair system was, therefore, not flown on STS-1; and, based on flight results, the contractual effort was terminated.

Question: Will the MMU and TPS repair kit be needed for the second development flight and if not, when will they be needed?

Answer: In view of the experience with STS-1, contractual effort on the repair kit has been terminated. We do not believe this capability will be needed in the future.

Work on the MMU is continuing since this is to be an extravehicular activity service available to users. It is not yet scheduled for flight.

SHUTTLE USER CHARGE

Question: The Shuttle pricing policy is based on an averaging technique which divides the total estimated operating costs over twelve years by the total projected number of flights during the period. The initial estimate of $16.1 million (in 1975 dollars) per launch was based on the Shuttle flying 572 times at a total cost of $9.2 billion in 1975 dollars during the 12 year period. However, NASA added a contingency to their price and established it at $18 million in 1975 dollars.

In testimony on September 25, 1979, before the House Subcommittee on Space Science and Applications, Mr. Yardley said the currently quoted price for civil users is $18 million in 1975 dollars based on an anticipated 487 flights rather than 572 flights. The $18 million projects to $30.5 million in 1981 dollars. In addition to the Shuttle price, Mr. Yardley said that commercial and foreign users would be charged a "use fee" of $4.3 million in real year dollars. Also, optional services will add to the user's price.

NASA proposes to adjust the price annually, after the first 3 years of operations, to insure that total costs will be recovered over the 12-year period. The adjustments are expected to recover unanticipated losses experienced during the first 3 years (Phase I) when the price is fixed, and to include anticipated cost increases over the remaining years of the program (Phase II). I understand that NASA's current cost estimate shows the price per flight to civil users should be about $26 million in 1975 dollars to cover total estimated operating costs over the 12-year period.

Since NASA has quoted a price of $18 million in 1975 dollars for civil users during the first three years of Shuttle operations and the current overall average cost per flight is running about $26 million in 1975 dollars, NASA is already incurring unanticipated losses of $8 million per flight in the first three years. Since 1986 is the first year that the $18 million fixed price can be adjusted, what do you now expect the 1986 price per flight will be in 1975 dollars and 1986 dollars to recover these early years losses and any anticipated increases or decreases in cost over the Phase II timespan?

Answer: The $26 million (1975 dollars) value was an estimate at the time of the FY 1982 budget submission to Congress in January. Currently, a revised total STS traffic model is being rebaselined. A revised average cost per flight value will be derived from the rebaselined traffic model. The loss on the relatively small number of early flights will be spread over a much larger number of remaining flights and therefore will not significantly impact the price of the later flights.

Question: When will NASA set the Phase II price per flight? Will the initial Phase II price reflect the full adjustment to recover total operations costs over the 12 year period?

Answer: The Phase II price will be estimated during the FY 1983 Budget process. The intent is to establish the price based on recovery of all operations costs.

Question: I am concerned that the continued increase in Shuttle costs coupled with the decrease in projected number of flights might create a situation in which the Federal Government will be heavily subsidizing commercial and foreign space shots. Dr. Frosch stated during October 18, 1979, testimony, that NASA had firm commitments from users for the first 3 years of operations. Please provide us with flight information on your first 3 years operations which shows the user's name and the price negotiated (including use fee) in 1975 dollars and real year dollars.

Answer: The following is provided:

User	Operations Charge (75$)	Use Fee (RY$)	Estimated 82$ Total
U.S. Commercial			
SBS	3.343	0.786	7.178
W. Union/TDRSS	43.274	4.100	68.840
RCA	13.520	3.180	29.030
Hughes/Syncom-IV	19.404	4.563	41.663
ATT/Telstar	8.112	1.908	17.418
Foreign			
Canada/Telesat	10.944	2.574	23.499
MBB/SPAS	0.622	0.391	1.580
Intelsat/V	35.409	8.331	76.033
India/Insat	3.453	0.812	7.414
Indonesia/Palapa	7.418	1.744	15.927
Arabsat	7.418	1.744	15.927
W. German/BMFT	18.000	---	34.416

Dept. of Defense			
DOD	144.000	---	275.328

Question: By using the average cost technique, NASA is lowering the per flight price during the early program years by averaging the higher initial costs with expected lower costs during the later years. For your 487 mission model, please chart for each fiscal year the total estimated operations costs and average costs of the flights. Also identify the flight on which the average cost per flight will equal the actual cost per flight and tell us what the total estimated deficit will be at that point.

Answer: NASA is reevaluating the total STS Flight Mission Model. Until this evaluation is complete, the total number of anticipated flights through the end of the mission model will not be known. In conjunction with the mission model analysis, NASA is conducting a reassessment of the 12-year cost recovery period. This is being done to assess the impact of extending the period of time in which NASA would recover total STS operating costs. Information on the revised cost per flight will be furnished after these analyses are complete.

Question: Based on a 280 hour Shuttle turnaround time, a nominal 2-shift/5 day operation and four orbiters, NASA concluded in its November 1980 Fleet Size Assessment that the maximum steady state launch rate in 39 flights per year. Projecting this flight rate through 1994 results in a total of 386 flights or 101 flights less than the latest 487 traffic model. Do the 386 flights represent a new traffic model for STS Operations, and, if so, what user flights would be reduced?

Answer: The November 1980 assessment gave reference numbers only for fleet sizing and did not reflect capability of the system to meet requirements beyond the nominal operational work week assumed. It is anticipated that additional requirements will warrant both longer work schedules and at least one additional orbiter. The current estimate does not include loss of users.

Question: What effect will the reduced flights have on total operations costs and cost per flight?

Answer: NASA is reevaluating the total STS Flight Mission Model. Until this evaluation is complete, the total number of anticipated flights through the end of the mission model will not be known. In conjunction with the mission model analysis, NASA is conducting a reassessment of the 12-year cost recovery period. This is being done to assess the impact of extending the period of time in which NASA would recover total STS operating costs. Information on the revised cost per flight will be furnished after these analyses are complete.

IMPACT OF REUSABILITY ON USER CHARGES

Question: In testimony before the Senate Subcommittee on Science, Technology and Space on February 7, 1980, the Chairman of the NASA Aerospace Safety Advisory Panel said that the Panel was less certain about the reusability of the Shuttle and will not be able to further that assessment until after the first flight. Since NASA initially estimated that the main engines could be used 55 times before overhaul, SRB's could be recovered and reused 19 times, the turnaround time for the Shuttle would be 2 weeks and the thermal protection system could withstand 100 reentries before total replacement, a change in any of these assumptions would increase the cost per flight. Which of these estimates has changed and what will the effect be on the total cost and on the user price?

Answer: NASA's latest post-flight assessment of the Space Shuttle's first flight has provided no indication that our assumptions for hardware reusability are incorrect.

DOD USER CHARGE

Question: DOD was to pay a price of $12.2 million (in 1975 dollars) per launch for projected materials and services costs averaged over the first six years of operations. The materials and services costs include the total of all costs incurred by the Government for the procurement of all expended hardware, refurbishment hardware and all flight spares and provisions, excluding external tank propellants.

At the time this agreement was drafted the consumable cost per flight (excluding propellants) was $9.2 million in 1975 dollars. I understand that based on recent projections that consumable costs have increased to $18.5 million in 1975 dollars or $6.3 million per launch more than the agreed upon price.

Apparently NASA is attempting to renegotiate a new fixed price for the first six years of operations. What is the status of these negotiations and what price is NASA attempting to obtain from DOD?

Answer: NASA and DOD personnel are negotiating an equitable price for DOD Shuttle services. The $18 million in 1975 dollars is the current base estimate.

Question: When did NASA first become aware that its 1977 estimate of $9.2 million plus a $3 million contingency was not adequate?

Answer: NASA determined that it would be necessary to renegotiate the total DOD price of $12.2 million for six year consumable cost during the formulation of the FY 1982 budget.

Question: How much does NASA estimate it will be absorbing in losses as a result of DOD flights? Provide assumptions and rationale for the computation?

Answer: Based on the current DOD request for 47 flights through the six year fixed price period ending in FY 1988, NASA would absorb approximately $272.6 million (1975 dollars). This calculation is based on an underpricing of $5.8 million x 47 DOD flights where $5.8 million is the variance between the current $12.2 million price and the proposed revision of $18.0 million.

Question: What is NASA's understanding of DOD's viewpoint on the renegotiation of a higher price?

Answer: The DOD recognizes the rationale for the higher price but has indicated they also have budget problems in their respective programs. Active discussion is currently underway.

Question: Are there any costs incurred by DOD, as a result of Shuttle delays, which will be deducted in arriving at the increased cost per flight that NASA is renegotiating with DOD? Please explain.

Answer: No, the DOD price will be based exclusively on projected Shuttle consumable costs.

LAUNCH PAD DAMAGE

Question: After the April 1981 launch of Columbia, there was considerable press coverage concerning damage to the launch pad. Was the damage greater than expected?

How long will it take to repair the damage?

How much will repairs cost and will this problem further affect the cost per flight?

Do you anticipate any design changes to the launch structure? If so, what changes do you expect to make and what will be the estimated cost?

Answer: The launch pad damage from the STS-1 launch was minimal and less than anticipated. It was less than for any of the Apollo launches and considerably less than for the first Apollo launch. All of the swing arms, tail service masts, umbilicals, scrubbers, launcher decks, flame deflectors, etc., performed as designed and were essentially immediately ready for the next launch. Several smaller and less important equipment items received minor damage which required refurbishment or replacement. There was also exhaust dust containing aluminum oxide scattered over the pad and launch support equipment which required a water-hose type wash down and general cleanup.

The above minor damage could be corrected and the pad made ready for the STS-2 vehicle within a month from the STS-1 launch. However, more time is available and will be utilized in the interest of economy. Also, preventive maintenance work such as sandblasting and repainting the structural steel will extend beyond that one month period.

The costs to refurbish, replace and return the pad to its original configuration is expected to be less than $200,000. This cost is not expected to affect the predicted cost per flight during future operations. We believe that the cost will reduce rapidly as we learn the specific ways that the pad is affected by the launch and implement the appropriate measures to reduce damage.

Pad and mobile launcher hardening changes are planned to reduce the recurring damage. One change is that four of the solid rocket booster hold-down posts are being provided with exhaust heat shields and added ablative thermal protection. Other changes to minimize future damage are being defined and designed. The one time cost of these improvements is estimated to be less than $600,000.

SHUTTLE MISSION PAYLOADS

Question: NASA's mission model is a projection of operational Shuttle flights over a period of 12 years. The model has been used to: (1) justify the need for a Shuttle versus an expendable system; (2) determine the number of orbiters needed; and (3) determine prices to charge users. Thus, the model should be as realistic and as valid a statement of requirements as possible. The model in 1972 projected 581 flights and in 1973 projected 725 flights. In October 1979, Dr. Frosch testified that the model is now set at 487 flights.

NASA's 5-year planning document for FY 1981 through FY 1985 shows funding constraints have precluded major new initiatives in NASA's FY 1981 program and limited the number of new initiatives in all years of this plan. It identifies 23 new initiatives that have slipped one or more years.

Based on the 725 flight mission model, what was the number of NASA payloads planned for launch aboard the Space Shuttle?

Answer: The NASA mission model is intended as a representative display of potential future payloads over a long term 10-12 year time horizon; the mission model should not be construed as a NASA plan. In 1973, that representative display of 725 flights assumed that NASA payloads would be flown on 371 flights.

Question: What is the current number of NASA payloads, based on the most recent mission model, that are planned for launch aboard the Shuttle? I'd like you to distinguish between firm and tentative payloads?

Answer: From the current manifest of flights, there are 25 NASA firm payloads, counting a whole Spacelab mission as one payload. The total NASA Flight Mission Model that is through the early 1990's is currently under evaluation.

Question: Please identify those payloads included in the earlier mission model that are not included as payloads in the current mission model and state the reasons why they were deleted.

Answer: Only one NASA payload, the National Oceanic Satellite System (NOSS), has been deleted from the mission model. The NOSS launch was cancelled in the FY 1982 Budget Amendment. However, several NASA payloads have been delayed as a result of technical problems and the FY 1982 Budget Amendment reductions. For example, the launch of the Gamma Ray Observatory and the Venus Orbiting Imaging Radar missions have been delayed from 1986 to 1988; the Galileo launch has been slipped from 1984 to 1985; the Space Telescope has been slipped from a 1983 to a 1985 launch; the International Solar Polar Mission has been restructured to delete the U. S. spacecraft; and the launch of the ESA spacecraft has been delayed from 1985 to 1986. In addition, some of the early Spacelab missions have been delayed.

Question: Please identify those payloads in the current mission model that were not included in the earlier mission model and state the reasons why they have been added.

Answer: No new NASA payloads have been added to the mission model. However, several planned launch dates have been slipped due to technical problems and to the FY 1982 Budget Amendment. In addition, the National Oceanic Satellite System launch has been deleted due to the cancellation of the program which resulted from the FY 1982 Budget Amendment reductions.

Question: Considering the Reagan Administration's five-year projection of NASA's budget, can NASA realistically finance the payloads projected in the mission model to be flown during the first five years of the Shuttle? If not, what payloads will be affected and how much will the cost per flight be increased?

Answer: The FY 1982 Reagan Amended Budget included a five-year projection which was somewhat lower than previous projections. As a result, NASA payload projections are being adjusted accordingly.

Question: Please furnish the number of flights and payloads that are currently planned to be flown during the first five years of Shuttle operations with a breakdown of the flights and classes of payloads into NASA, U.S. Government, commercial, foreign, and DOD.

Answer: Shuttle flights for the first five years (through 1986) of Shuttle operations are currently anticipated as follows:

NASA	19
Other Civil Government	2
U.S. Commercial	4
Foreign	5
Dept. of Defense	19
Reflights	3
Total	52

Question: How many Shuttle flights will carry more than one payload in the current mission model?

Answer: In the current manifest of 52 operational flights through FY 1986, 19 civil missions have multiple payloads; there are three unassigned reflights, there are 19 DOD flights, the manifests for which are classified, but multiple payloads launches are probably being considered; there are 11 single payload flights including 7 dedicated Spacelab missions with a number of experiments and 3 upper stage missions that comprise a full Shuttle cargo load.

Question: How many new program starts had to be deferred during the last five years because of STS cost, schedule, and performance problems and what effect will these deferrals have on payload availability during the first five years of Shuttle operations?

Answer: A number of considerations are involved in new-start decisions, including the scientific/technical merit of the project, its cost, and of course overall budgetary constraints. NASA budgets have been particularly austere for over a decade, and STS development costs have accounted for a sizable percentage of those budgets in recent years. At the same time, a number of new starts proposed by the Agency were either disapproved or deferred to subsequent years.

However, that is not to say that those initiatives would have been approved by the President and the Congress, had STS costs been lower. Typically, NASA (like other agencies) generates more program proposals than can be funded. In any event, and without direct linkage to STS funding requirements, the following are significant projects since FY 1978 which either were not approved or were deferred to future years: Lunar Polar Orbiter, Gamma Ray Observatory, Venus Orbiting Imaging Radar, National Oceanic Satellite System, Solar Electric Propulsion System, Upper Atmospheric Research Satellite, and International Solar Polar Mission. In addition, for STS technical/schedule reasons, several projects have been rescheduled to later periods, including Galileo and Spacelabs.

The number of payloads which will be available during the next five years will exceed the number of launch opportunities which can be offered by the Shuttle. These additional payloads will be accommodated on expendable launch vehicles.

Question: Is the 487 flight model still the current model? If not, what is the current model and what are the changes between the two?

Answer: Currently, NASA is analyzing the total STS traffic model. As part of the analysis, the Agency is evaluating the parameters that influence the annual traffic rate including payload demands, budget adjustments, flight rate capacity and model duration.

SHUTTLE TIME IN ORBIT

Question: What systems need to be developed to enable the Shuttle to stay on orbit for two to seven days and for eight to thirty days? What are the estimated costs of developing these systems and will these costs be charged against NASA's Shuttle development estimate? Will any of these costs be recoverable?

Answer: The Shuttle system currently has the capability to stay on orbit from two to seven days without any mission compromise. Shuttle missions beyond seven days are constrained by the available electrical energy. An extension of the on-orbit power capability could be achieved by the addition of cryo tanks for the fuel cells. However, for mission duration appreciably beyond seven days, additional tanks are not considered a practical solution.

The development of an external power source, such as the Power Extension Package (PEP), would extend the Shuttle on-orbit duration. The PEP is a solar array assembly carried in the orbiter bay and deployed by the Remote Manipulator System (RMS) while in orbit. The Shuttle duration can be extended by the PEP system up to twelve days with no constraint on a launch date or orbit inclination. Judicious selection of a launch date and orbit inclination would extend this duration to approximately twenty days. The cost for developing the PEP system is estimated at about $250 million with about a two and a half year development cycle.

Beyond twenty days, stowage of consumables, as well as electrical energy, becomes a constraint. Modifications to the orbiter life support systems and/or consumable stowage systems would be required if Shuttle mission durations are to be extended appreciably beyond planned to extend on-orbit duration beyond twenty days, nor are missions beyond twenty days currently envisioned.

The development of PEP is not currently considered part of the NASA Shuttle development estimate. While no decision has been made on recovering the cost of the PEP system, a user charge for amortization of hardware costs would be consistent with current Shuttle user policy.

SHUTTLE UPPER STAGES

Question: In 1973, the development of a space tug to carry payloads to higher orbits was said to be of key importance to gaining full utility of the Space Shuttle. Because of costs, a decision was made to develop cheaper interim expendable systems--the inertial upper stage (IUS) and spinning solid upper stages (SSUS) A and D--to be followed by a space tug developed for later operational use.

Because of technical problems and cost growth, NASA recently decided to terminate development of the three-stage IUS for its planetary missions and to develop the Centaur stage instead. Unlike the space tug, these interim systems will not retrieve payloads, do on-orbit maintenance, or have the reusability of a space tug. Please provide an estimate of total development costs for the two stage IUS, the SSUS-A, the SSUS-D, and the Shuttle/Centaur broken down by source of funding, i.e., DOD, McDonnell Douglas, NASA, and Boeing.

Answer: Official development cost estimates for the IUS and the SSUS-A/D cannot be furnished since the former is a DOD responsibility and the latter is a commercial development by McDonnell Douglas. The DOD has unofficially informed NASA that its present estimate of IUS development costs is approximately $460 million (in dollars of the FY 1982 budget). The best approximation we have available of the McDonnell Douglas SSUS development costs is about $50 million. The estimated Shuttle/Centaur development cost is approximately $225-$250 million (about $200 in FY 1981 dollars).

Question: How much money had been spent on the development of the three stage IUS before cancellation?

Answer: Prime contractor development costs on the three stage IUS to date are about $30 million. In addition, approximately $20 million has been applied to other activities related to NASA use of the IUS. Much of this related effort is applicable to the two-stage IUS as well.

Question: The development cost estimate for the 1973 space tug concept was a range from $500 million to $750 million. These were preliminary figures. How does the total estimated development of the interim systems compare in comparable dollars to the $500 million to $750 million space tug estimate?

Answer: The space tug estimate made at the time of the Shuttle Design, Development, Test, and Evaluation (DDT&E) commitment was about $800 million in 1971 dollars for the DDT&E and investment. The estimate in 1981 dollars would be about $1.3 billion in DDT&E. Official cost estimates for the IUS and SSUS developments cannot be furnished since the former is a DOD development responsibility and the latter is a commercial development by McDonnell Douglas. The DOD has unofficially informed NASA that its present estimate of IUS development costs is approximately $460 million (in dollars of the FY 1982 budget). The best approximation we have available of the McDonnell Douglas SSUS development cost is about $50 million. Total cost estimates for all NASA effort related to IUS development is approximately $80 million depending on resolution of termination costs for the three stage IUS. The total estimated development cost for the Centaur would be about $225 to $250 million (about $200 million in 1981 dollars).

Question: What is the current cost, schedule, and performance status of the Centaur, IUS, and SSUS-A/D systems? Please identify actual and/or anticipated cost growth, schedule slippages, and technical problems and any potential impact on planned Shuttle missions.

Answer: Government costs from inception through FY 1981 are approximately $10 million each for the SSUS-A and the STS/Centaur. NASA costs for all efforts related to IUS development are approximately $50 million to date. Official current development cost estimates for the two-stage IUS cannot be furnished since it is a DOD project. The SSUS is a commercial development by McDonnell Douglas; the costs shown for SSUS are progress payments on SSUS-A missions, which will be repaid by future SSUS-A users. Actual SSUS-A/D development and production costs are not available because it is a commercial venture. No Government cost growth is anticipated for the SSUS and the Centaur. The IUS cost estimate could increase depending on resolution of termination of the three-stage IUS.

Current performance estimates for the upper stages are shown as follows:

2-Stage IUS/STS	5,000 lbs in geosynchronous transfer orbit
Wide-Body Centaur	13,000 lbs in geosynchronous transfer orbit
	5,000 lbs Galileo Mission
SSUS-A	4,400 lbs to geosynchronous transfer orbit
SSUS-D	2,750 lbs to geosynchronous transfer orbit

Key schedule dates for the upper stage programs are shown below:

2 Stage IUS/Titan launch date	- DOD should be contacted
2 Stage IUS/STS	- December 1982 launch - TDRS-A
Wide-Body Centaur	- April 1985 - Galileo
SSUS-D First STS flight readiness	- September 1982
SSUS-A First STS flight readiness	- February 1983

Question: Please identify the payloads that will have to be launched with expendables if these problems are not satisfactorily resolved. (Distinguish between firm and tentative).

Answer: Payloads which are dependent on the satisfactory development and operation of the Centaur-in-Shuttle, the IUS, and the SSUS-A/D systems will be seriously impacted, delayed, cancelled, or require major redesign if the problems of these upper stages are not satisfactorily resolved. Currently, the missions that would be seriously impacted if the IUS and the Centaur-in-Shuttle upper stages are not available are the TDRSS, Galileo, and the International Solar Polar missions. These are not planned for launch on expendable launch vehicles.

SOLAR ELECTRIC PROPULSION SYSTEM

Question: In your most recent five year plan, you stated that because the IUS and SSUS will not be able to deliver to geosynchronous orbit the larger, heavier payloads planned for the late 1980's and early 1990's, the Solar Electric Propulsion System (SEPS) and the orbital transfer vehicle (OTV) will have to be developed. The SEPS is expected to be teamed with the IUS, or later an OTV, to be capable of delivering to geosynchronous orbit 50,000 pounds of cargo instead of the 5,000 pounds the IUS alone could deliver. However, NASA's revised FY 1982 budget deletes the funds for the SEPS program. What payloads in your current mission model will require the use of SEPS and what effect will the delay in initiating the SEPS program have on these missions?

Answer: The primary usefulness of the SEPS is for planetary and comet missions. Delay of SEPS development means deferring some opportunities for small body orbiter missions and planning only those missions that can be accomplished ballistically. Presently, there are no specific missions driving the development of SEPS, but future Agency planning calls for SEPS to support a Saturn orbiter dual probe mission and outer planet missions in general.

Question: Must the SEPS be used in conjunction with an IUS or OTV or will it have the capability to be used by itself as an upper stage?

Answer: For high altitude Earth orbit missions, SEPS requires the use of a two-stage IUS or its equivalent. This stage takes the SEPS and its payload(s) from the Shuttle parking orbit to an altitude above the Van Allen belts. SEPS would then be used to boost payloads to high-velocity orbits.

For planetary missions, SEPS uses a two-stage IUS (or its equivalent) to accomplish the initial injection from the Shuttle parking orbit to an altitude above the Van Allen belts, and also reduces the overall trip time to the outer planets.

Question: What do you estimate the total development cost of the SEPS progrm will be? What do you estimate the price will be to the user for a SEPS?

Answer: In the formulation of the FY 1982 budget, the total development cost of SEPS was estimated at $390-$460 million assuming a fourth quarter 1981 start and 1986 launch.

The recurring cost of a SEPS in FY 1982 budget planning was $55 million dollars.

ORBITAL TRANSFER VEHICLE

Question: According to the current 5-year plan, the orbital transfer vehicle (OTV) will transfer cargo, such as elements of large space platforms, into geosynchronous orbit, and perform such advanced missions as disposing of nuclear wastes and demonstrating space power technology. Both a cargo and manned OTV may be needed. The plan further discloses that NASA is studying the addition of an interim OTV to support a 1987 launch of a demonstration geosynchronous-orbit platform. The studies were to examine both the possible need for an interim OTV relative to other possible means for satisfying the need. What are the results of these studies?

Answer: The studies established the possible need for an expendable (interim) OTV in the late 1980's and for a fully reusable OTV in the 1990's. The chosen configurations, employing liquid hydrogen and oxygen, were found superior to alternate propellants by a wide margin. It was also found that aerodynamic braking is a power contributor to practical round trip, reusable, missions. While there are no firm requirements for such capability, many potential uses have been identified for DOD, NASA, and commercial applications. Therefore, studies are currently being conducted on large platforms, advanced sensing systems, servicing missions, energy relay and supply systems, and others. The approach to providing OTV capability is still under consideration at NASA.

Question: What will be the differences in capability between the interim OTV and a full OTV?

Answer: The interim OTV will be expendable; the full capability OTV will carry about the same payload weight; however, it will be fully reusable and could well be permanently based in space. It could also carry substantially heavier payloads in the expendable mode. The full capability OTV will have aerobraking capability and in addition it will be configured to permit man-rating for eventual manned missions.

Question: What would be the increase in total program cost as a result of a decision not to develop a full OTV in 1983?

Answer: The requirements for an OTV are not yet firm. Until we better understand the requirements for an OTV, it must remain a study effort.

Question: Who are the potential users of both the interim and full OTV?

Answer: Main users are planetary science, DOD, communication platforms and other large space structures, repair of satellites at geosynchronous orbit, and eventually manned sortie missions to geosynchronous orbit. Other potential users include nuclear waste disposal and space power satellites.

Question: What is the type and date of the first Shuttle mission that is expected to require an OTV and how many of the Shuttle missions do you expect will require an OTV?

Answer: Until firm DOD, NASA, or commercial requirements materialize, the first requirement for a reusable OTV is likely to be for unmanned servicing of satellites in geosynchronous orbit, in the 1990's. Although the mission model is now being reassessed, it is anticipated that in the 1990's an increasing fraction of the total

Shuttle missions will require an upper stage with capability beyond that of the Centaur.

Question: Do you plan to develop separate OTVs for cargo and passengers? (If so) To what extent will these vehicles differ?

Answer: Centaur, being expendable, will be for unmanned missions. The full OTV will be used for much heavier cargo and it will be planned to grow with little or no change to manned sortie missions. The most conspicuous differences will therefore be in the presence of a manned capsule, an aerobrake device, and larger propellent capacity. There will also be important changes to permit basing and tending of the OTV at a space base. Requirements are not yet firm.

Question: Will the full OTV be equal to or have greater capability than your 1973 space tug concept?

Answer: The full capability OTV, in a reusable mode, would transport approximately 1/3 more payload to geosynchronous orbit than the tug as described in 1973. This increase is attributable to the projected use of aerobraking on return to low Earth orbit. In addition, it is envisioned to carry manned capsules.

Question: Will the OTV result in the phasing out of any of the IUS and SSUS upper stages?

Answer: It is not clear that the OTV will result in the phasing out of the current STS upper stages. The future of these upper stages will depend on user demand and economics.

Question: The space tug configuration presented in 1973 was said to be able to accomplish all the known payload delivery requirements. How does the payload delivery capability of the interim and full OTV differ from the space tug?

Answer: The space tug design was based upon requirements identified in 1973. Since that time, several additional requirements have emerged such as very long payloads and higher performance needs for planetary spacecraft.

Over the same period, the performance of candidate vehicles has changed in that some capability has been lost due to Shuttle adaptation while a significant increase is achieved by using aero-assisted return.

Feasibility studies of the OTV are currently underway as well as review of requirements. Though the OTV remains in a formative stage, indications are that it will have comparable performance to the space tug insofar as delivery to geostationary orbit and significantly increased performance for payload return.

SHUTTLE UPPER STAGES

Question: Last year you said that upper stages were projected for use as follows:

	SSUS-D	SSUS-A	IUS-2	IUS-3	TOTAL
Manifested	23	4	8	4	39
Projected	247	19	60	6	332
Total	270	23	68	10	371

The Program Operating Plan 81-1 guidelines, however, suggest that flights with upper stages have decreased by 88 while free flyers have increased by 90. Please update this chart to reflect the current manifested and projected use of upper stages in the current traffic model and provide an explanation for decrease in the projected use.

Answer: Adjustments in the table presented occur from the user options exercised in the use of the Shuttle versus expendable launch vehicles in the manifest time frame. The current manifested numbers are as follows:

	SSUS-D	UNIQUE PROPULSION	SSUS-A	IUS-2	CENTAUR	TOTAL
Manifested	23	5	4	4	2	38

Long range upper stage projections have not been finalized due to the interagency studies that are underway and the fact that the flight model projects a capability and not payload bookings.

Question: What is the estimated cost of each of the upper stages in 1975 dollars?

Answer: The currently estimated recurring cost of the Shuttle/Centaur in 1975 dollars is $12 million per vehicle. The DOD is studying restructuring the IUS contract which could affect the cost of an IUS. The current recurring cost estimate for a two-stage IUS is about $10 to $12 million in 1975 dollars under the original Air Force full scale development contract. A follow-on IUS two-stage vehicle is estimated to cost approximately $21 to $24 million in 1975 dollars. SSUS-D recurring costs should be obtained from McDonnell Douglas since this is a commercial development. The current recurring cost estimate for a SSUS-A is approximately $2 million in 1975 dollars.

SHUTTLE CONTINGENCY LANDING FIELDS

Question: NASA plans to use widely dispersed airfields around the world as contingency landing sites for the Shuttle in the event of an in-flight emergency during the first four flight tests.

Does NASA plan to continue use of contingency landing sites during operations? If so, what sites have been selected?

Answer: Yes, the sites at Rota, Kadena, and Hickam will be retained while others could be added depending on the flight inclinations flown later on in the Shuttle program.

Question: What training and/or equipment and facilities will be required at each site? What is the total estimated cost of establishing and operating these contingency sites and how will these costs be funded? Will these costs be reimbursed by Shuttle users?

Answer: If a new contingency site is selected, NASA/DOD will send a training team to the site and run three 5-day courses for training for at least two local teams on orbiter handling. The selected DOD airfield support coordinator is further briefed and given a package of training materials to handle refresher training or training for specific missions.

NASA sends a minimal amount of ground support equipment to the sites, i.e., landing gear safety pins, tow bar adapter, extractor straps, and ballistic hose cutters.

For each new contingency landing site selected, the ground support equipment costs about $2,000. By using military transportation for shipping the ground support equipment and training instructors, additional costs for travel (5 days) would average about $9,500 per site. Once the contingency site has been established, there are no operational maintenance costs.

Question: What is the status of negotiations with Spain and Japan for use of contingency landing sites in their countries?

Answer: These negotiations were successfully concluded in time for the sites to be available for STS-1. The agreements remain in place for future flights.

SHUTTLE ASTRONAUT CANDIDATES

Question: The pilot and mission specialist astronaut candidates selected in January 1978 completed their 2-year evaluation in 1980. I understand NASA wants to begin an annual selection so that you will have a ready list of candidates to replace astronauts leaving the program. What is the cost of maintaining the selection process on an annual basis?

What does it cost to train an astronaut as a pilot and/or a mission specialist?

Since these personnel will be a part of the STS operations, are the costs to select and train the astronauts included in the cost base that is used to establish the average cost per flight (i.e., the price to users)?

Answer: The estimated annual cost to administer the astronaut selection process is approximately $350,000. The estimated costs to train the Shuttle's commander and pilot are approximately $1 million per person and the estimated costs to train a mission specialist are approximately $500,000 per person. These costs are included in the STS cost data base used to establish the average cost per flight. All costs estimates are in present day dollars. The decision to have annual selections of astronauts/mission specialists will be determined on an "as needed" basis.

SHUTTLE VS EXPENDABLE LAUNCH VEHICLES

Question: Considering the technical problems and cost overruns experienced on the Shuttle program, and the decrease in the number of payloads projected to be flown in the current model, it is still likely that the Shuttle is more economical than expendable launch vehicles (ELV's)? What are your current estimates regarding the economic advantage of the Shuttle over ELVs?

Answer: NASA is in the process of reevaluating its total flight traffic model and cost per flight impact.

EXPENDABLE LAUNCH VEHICLE COSTS

Question: Last year Senator Stevenson asked you to provide for the record the procurement and launch cost for each expendable vehicle, namely the various configurations of the Thor-Delta and Atlas-Centaur. You provided the following:

Prices for ELV Flights
(FY 1981 dollars)

Payload Class	
Delta 3910	$22.0 million
Delta 3920	27.3 million
Atlas-Centaur	38.0 million
Titan-IUS	71.1 million

What are the above values in FY 1975 dollars?

Answer: A comparison of expendable launch vehicle prices per flight--FY 1981 versus FY 1975 dollars--is provided in the table below:

Prices for ELV Flights
($ in millions)

Payload Class	FY 1981 Dollars	FY 1975 Dollars
Delta 3910	22.0	12.6
Delta 3920	27.3	15.7
Atlas-Centaur	38.0	21.8
Titan-IUS	*	*
Titan Centaur	*	*

*The Titan-IUS and Titan boosters as used with Centaur upper stage are vehicles under Air Force cognizance. Because the hardware procurement and launch costs are highly dependent on buy size and launch rate, respectively, it is difficult for NASA to provide a detailed comparative cost. In our last experience with Titan Centaur procurement for the Mariner Jupiter Saturn mission which was launched in 1977, the vehicle and launch support costs were approximately $50.0 million, divided equally between hardware and launch support.

Question: How much is procurement cost and how much is launch cost? How much DDT&E is recouped on each flight? Provide comparable data for Titan-Centaur.

Answer: The procurement cost of the launch vehicle hardware and the launch support cost for NASA expendable launch vehicles is as follows:

	Hardware	($ in millions) Launch Support	Total
Delta 3910	9.8	12.2	22.0
Delta 3920	15.1	12.2	27.3
Atlas-Centaur	21.5	16.5	38.0

The costs associated with development effort to improve performance of expendable launch vehicles has been allocated to those mission users who benefit by these improvements. Last year, NASA initiated the Delta (model 3920) performance improvement, estimated to cost $12 million. This development will allow an increase in lifting capability to the Delta vehicle from 2,500 pounds to 2,750 pounds and is required for the NASA Landsat missions. Reimbursable users have expressed their desire to use this vehicle system and to share in the cost of this improvement.

Recently, at the request of INTELSAT, an improvement to the Atlas Centaur has been initiated to stretch the Atlas booster stage by 80 inches, allowing more fuel and increasing the lifting capability of the vehicle. This improvement will be paid for in total by the INTELSAT Consortium since no other mission users are planned for Atlas Centaur.

Basically, it has been NASA's policy that development costs associated with modifying expendable launch vehicles will be recouped from users on a pro rata basis, and it is our intent to continue this policy through the light of these expendable launch vehicles.

EXPENDABLE LAUNCH VEHICLE AVAILABILITY AND USE

Question: How many Thor-Deltas (by type), Atlas-Centaurs, Titan IIICs, and Titan 34Ds are now available for launch?

How many are in production? How many are under long lead item procurement? How many are on contingency option?

Answer: As of March 31, 1981, there were nine Delta launch vehicles delivered and in preparation for launch. Long lead item procurement and production has been authorized for twenty-two more Deltas. These vehicles are in various stages of fabrication with the last Delta delivery planned late FY 1983. We have not exercised any of the options in the Delta contract to buy more vehicles.

There are four Atlas Centaur launch vehicles delivered and in preparation for launch. Long lead item procurement and production has been authorized for four more Atlas Centaurs. The last delivery is planned for FY 1984.

Titan-IIIC and Titan 34D's are USAF controlled vehicles. NASA has no plans to use these vehicles in the future.

Question: How many of each are firmly committed to launch and what is the projected date for the last launch of each?

Answer: There are 26 Deltas firmly committed to launch, and an additional 20 Deltas which are also booked on the Shuttle. The last Delta launch is planned for second half of 1985. All eight Atlas Centaur vehicles are firmly committed to launch. The last Atlas Centaur launch is planned for the third quarter of 1984. INTELSAT has an option for three more launches which must be exercised by September 1984. If INTELSAT exercises this option for three additional launches, the Atlas Centaur launch schedule could be extended through 1985. No other known customers have expressed an interest in using this vehicle at this time. Therefore, NASA would phaseout this vehicle after the last INTELSAT V launches currently planned. The Titan-IIIC and the Titan-34D launch vehicles are USAF developed and controlled systems. We understand that the USAF is producing these vehicles to support DOD requirements and to cover backup Shuttle missions needs.

Question: How many users (please identify each) have indicated a firm or tentative willingness to pay additional costs to continue the transition periods for the Thor-Delta and/or the Atlas-Centaur?

Answer: NASA's transition policy states that a Delta class or Atlas Centaur class mission scheduled on the STS would be provided a backup capability with an expendable Delta or Atlas Centaur launch vehicle provided that the user decides the mode of launch vehicle to use at first manned orbital flight (FMOF) plus one month or nine months before his scheduled launch date whichever is earlier. A meeting at which users were briefed on STS-1 results was held May 28-29, 1981. Prior to this decision, the user would pay normal progress payments for a STS launch and NASA would provide the expendable vehicle up to the decision period. A second criteria was established for users who are double-booked on Delta and STS. This provided that at 30 months prior to launch, a user must choose either Delta or STS as his launch mode because of the production lead time associated with the Delta vehicle. It is at this 30 month prior to launch period that the user must begin progress payments to NASA to cover the cost of producing the vehicle hardware and preparing it for launch. Under the policy established, users have not needed to pay any additional costs.

The users who have indicated a tentative willingness to pay additional costs to continue the transition period, as indicated by their payments of $100,000 to double-book on Shuttle and Delta, are RCA, GTE Satellite Corporation, Southern Pacific Communications, and the Australian Domestic Satellite System.

Question: Have any users evidenced interest in any version of the Titan?

Answer: Over the last six months, the INTELSAT Consortium has inquired as to the availability and cost of the Titan vehicle for potential use in support of a future program.

Question: Enumerate those reimbursable customers who have launched on the Atlas-Centaur and identify those who have indicated a willingness to fund continuation of the program beyond CY 1981?

Answer: Reimbursable customers who have been launched on the Atlas Centaur launch vehicle are:

Company/ Agency	Type Satellite	No. Launches Conducted
COMSAT Corporation	Domestic Comunications	4
INTELSAT Consortium	International Communications	19
Department of Defense	Communications	4

Currently, the sole user of the Atlas Centaur launch vehicle beyond CY 1981 is the INTELSAT Consortium with eight planned launches extending into the third quarter of 1984. INTELSAT has an option which must be exercised by September 1981 for at least three more launches. If this option is exercised, the Atlas Centaur launch capability would be extended into CY 1985. In addition, we have supplied budgetary planning estimates to the Navy for possible additional FLTSATCOM missions beyond 1981 but as yet have not received any firm requests from them.

Question: Provide a tabulation of the phaseout and closeout costs you say are associated with ending the program.

Answer: Phaseout costs and closeout costs are our estimates of costs for the effort to inventory, assess, and reissue for use or declare surplus all hardware and equipment associated with the production and launch of the Atlas Centaur vehicle. It also covers restoration of contractor facilities to their original configuration. These costs are dependent on the contractor situation at the time of closeout and are subject to negotiation at that time.

Question: What is the date of the last currently scheduled Atlas-Centaur launch?

Answer: The last currently scheduled launch of Atlas Centaur is in the third quarter of CY 1984. The launch is an INTELSAT Communication Satellite.

TRACKING AND DATA RELAY SATELLITE SYSTEM (TDRSS)

Question: NASA's Flight Assessment Baseline shows that a lightweight external tank, lightweight solid rocket boosters and a main engine setting of 102/109 percent of rated power level (RPL) will be required for Orbiter 102 to launch the first Tracking and Data Relay Satellite (TDRSS) in September 1982.

Will the main engine certification be completed and both the lightweight external tank and solid rocket boosters be available in time to launch the TDRSS-A in September 1982?

If not) When and on what orbiter will TDRSS-A be launched and what will be the cost impact of the delay beyond September of next year?

Answer: Rather than September 1982, the current schedule for TDRSS-A launch is December 1982 with OV-102 (STS-6). The main engines currently on OV-102 are planned to remain on that orbiter for the first nine flights. These engines have been certified for mainstage operation at 102 percent of rated power level (RPL) and the 109 percent of RPL abort capability has been demonstrated. The lightweight external tank and the solid rocket boosters for STS-6 will be delivered to KSC in September 1982, in support of a TDRSS-A launch in December 1982.

Question: If the launches of TDRSS-A and B are delayed, what will be the cost impact to the TDRSS Program? What will be the impact on other missions?

Answer: The cost impact of a delay on TDRSS-A is currently estimated to be about $23 million per month. The cost impact to TDRSS of delays is largely dependent on the delay of TDRSS-A; this is because roughly 2/3 of the impact results from additional interest costs associated with delays in the initiation of loan repayments which are tied to the launch and verification of service capabilities of the first spacecraft. The cost impact to TDRSS of delay in the launch of the second spacecraft is dependent upon negotiations with the contractor and are therefore indeterminate, although such impacts would be considerably smaller since loan repayment initiation is not affected.

There are additional costs associated with the operations and maintenance of the present ground Space Tracking and Data Network in the amount of $4.5 million per month.

If TDRSS-A is delayed several months, it will cause the delay in the launch of Spacelab 1. The requirement for a TDRSS-B launch prior to Spacelab 1 is under study.

If both TDRSS missions are delayed, Landsat-D would have to continue to use the Japanese ground station to cover India, China and Australia for the additional months of slip.

Question: I understand that NASA plans to close down only eight of its fifteen space tracking and data acquisition ground stations once TDRSS becomes operational. Three stations will remain open on a contingency basis. What is the justification for the continued operations of four stations on a full-time basis and three on a contingency basis after the TDRSS becomes operational?

Answer: We plan to close stations located at Hawaii, Guam, Ascension Island, Quito, Eucador, and Santiago, Chile when TDRSS becomes fully operational and Fairbanks, Alaska when support for Landsat and Nimbus are no longer required (October 1984). Additionally, the three STDN stations at Madrid, Spain; Canberra, Australia; and Goldstone, California will be removed from the STDN network and consolidated with the present Deep Space Stations at those locations to reduce operating costs and provide greater capability for deep space missions and to support highly elliptical spacecraft. Full-time stations at Merritt Island and Bermuda will remain open to support launch and landing of the STS and launch of expendable vehicles. The station at Greenbelt, Maryland will continue to support the International Ultraviolet Explorer (IUE) mission during its lifetime. The three contingency stations at Ponce-de-Leon, Florida, Tula Peak, New Mexico, and Buckhorn, California, are required for launch and landing support of the Space Shuttle.

Question: What are the annual costs to operate and maintain these stations?

Answer: The approximate costs to operate and maintain the stations at Alaska, Greenbelt, Maryland, Merrit Island, Bermuda, Tula Peak, Buckhorn, and Ponce-de-Leon, will be about $40 million per year.

Question: Are the three contingency stations expected to close at some later date and if so, when?

Answer: We plan to close the three contingency stations as soon as operational experience verifies the capability of TDRSS to provide accurate and reliable tracking data.

Question: What are the estimated annual savings resulting from the closing of the eight stations?

Answer: In 1986, we expect to be in full operation with the TDRSS and will have closed all Space Tracking and Data Network (STDN) stations except Merritt Island and Bermuda, which will be used for launch and landing support only, and the station at Greenbelt, Maryland, used to support International Ultraviolet Explorer. The Space Tracking and Data Network stations at Canberra, Madrid, and Goldstone will have been consolidated with the Deep Space Network and will be operated by the Jet Propulsion Laboratory. As a result, our overall network costs in 1986 will be reduced by about $100 million a year (expressed in FY 1982 dollars). Included in the above estimate are the annual cost savings anticipated by the network consolidation program (about $20 million - FY 1982 dollars) beginning in the same time frame.

Question: NASA's Space Transportation Systems, Operations, Program Introduction Document, dated July 2, 1980, shows that 17 DOD stations will be required to support STS Operations despite TDRSS. Twelve of the stations will provide C-Band radar support and five Ku-band support.

What is the justification for this support? What are NASA's estimated annual costs for the support? What is the estimated annual savings expected from the TDRSS?

Answer: The DOD stations will provide both launch and landing support for Shuttle missions. Along with the range safety functions, critical trajectory data is required until the navigation with the Global Positioning System is accepted.

The estimated annual cost to NASA for this DOD support is approximately $1.5 million.

The benefits of TDRSS will be realized over its ten year operational period in three forms: cost savings associated with station closures (our overall network costs in 1986 will be reduced by about $100 million per year expressed in FY 1982 dollars); cost avoidance of not implementing K-band and associated communications throughout the ground network to support the high data rate missions of the Shuttle era; and the six-fold increase in mission coverage provided by TDRSS compared to the ground network.

QUESTIONS SUBMITTED BY SENATOR SCHMITT

SEARCH AND RESCUE MISSION

Question: What is the current status of the mission?

Answer: The initiation of the demonstration phase of the satellite-aided search and rescue program, with the near simultaneous launch of the U.S. NOAA-E spacecraft and the USSR COSPAS I spacecraft, is now projected for mid-1982. All major elements of the joint project are currently on schedule. The NOAA-E spacecraft bus is complete, the Canadian and French search and rescue instruments have been received and checked and the integration of the spacecraft will be completed by late summer.

The COSPAS spacecraft is currently being fabricated and will be ready for launch in July of 1982.

Ground stations are under development in all involved countries. Three U.S. ground stations will be deployed in addition to one in Canada, one in France, two in the USSR and one in Norway. Each country is also developing a mission control center to coordinate spacecraft operations and the exchange of search and rescue data. This ground network is scheduled for completion in the spring of 1982.

Mission planning for the demonstration includes two major elements. The first element is the detection and location of distress alerts from an estimated 200,000 currently equipped U.S. civil aircraft and 10,000 vessels. These distress transmitters operate at the international aeronautical distress frequencies of 121.5/243 MHz and were not designed specifically for satellite detection. The second element of the mission is to demonstrate the very high alerting efficiency and location accuracy which can be achieved with a distress transmitter designed to operate with a satellite processor. Systems of this type, which will operate at 406 MHz, have been used operationally with great effectiveness over the last ten years for environmental data collection but never specifically for search and rescue.

Question: Has there been an agreement on how an operational system should be configured?

Answer: No. An Interagency Program Steering Group which manages the program has been studying the possible configurations of an operational system and the mechanisms by which an operational system might be implemented. The most likely candidate for an operational system seems to be the continued flight of search and rescue instruments on NOAA's operational meteorological satellites; however, the group is continuing to study the cost and potential benefits of a simple dedicated system.

Final agreement on the configuration of an operational system must await the positive proof of system effectiveness which only the flight data obtained during the demonstration and evaluation phase can provide.

Question: Will there be a data gap if this program is not funded this year? Please explain the impact of this.

Answer: Yes, a major conclusion of the Interagency Program Steering Group was that it would be impossible to implement an operational system earlier than the late 1980's even with a successful demonstration. Consequently, the Steering Group recommended that an "operational evaluation" phase might provide a transition between the baseline program and a possible future operational system.

It is likely that during the demonstration period the 121.5/243 MHz system will be used in actual distress situations and that there would be an interruption of this life saving service until the operational system is deployed. It is also probable that the 406 MHz experiment will demonstrate high effectiveness. Continuity of service at that frequency, permitting an extensive evaluation by interested parties, would be an important element in the international acceptance of the system.

Question: How would the currently conceived mission fit into an operational system if this decision were made?

Answer: This would depend on the particular operational system selected. One scenario is that the present mission concept using Canadian and French search and rescue instruments on U.S. operational meteorological satellites would continue uninterrupted. This would provide two SARSAT continuous-orbiting spacecraft. It is also reasonable to expect that the Soviet Union would be willing to orbit two operational spacecraft on a continuing basis giving an operational constellation of four spacecraft.

This constellation would have a mean alerting time of one hour from the activation of a distress transmitter until the signal reaches a satellite. This is near optimum time considering the total search and rescue mission time line.

This idea is attractive because it meets the needs of all countries involved with each one bearing only a fraction of the total system cost. However, a number of alternate strategies for system implementation are being actively explored. We have been working with the Intergovernmental Maritime Consultive Organization (IMCO) and the International Civil Aviation Organization (ICAO) to inform them of this work and to solicit their suggestions on system implementation. The work is also being coordinated with the International Radio Consultive Committee (CCIR) and informally with INMARSAT. Again, this preliminary thinking will not crystallize until the system effectiveness is demonstrated.

UPPER ATMOSPHERIC RESEARCH SATELLITE EXPERIMENTS

Question: What new information do you expect to get out of the UARSE?

Answer: The UARSE line item will provide the instrument payload for possible UARS missions that, along with the spacecraft and the interactive ground data handling facility, will be required to fully implement the UARS program. A tentative selection of the UARS payload was announced in April 1980, with a final payload to be announced in December 1981, after definition studies of the tentative selections have been completed. The instruments represent the core of the UARS program. Their inherent development nature makes them the "long pole" schedule items, necessitating starting their development early as a prudent first step in implementing the UARS program.

When flown on the UARS missions, the instruments will provide the first integrated global data on upper atmospheric energy input, ozone concentration, concentration of molecules that control ozone, and winds. The UARS program is the crucial next step in NASA's upper atmospheric research efforts aimed at implementing the Congressional mandate to conduct monitoring and research on the upper atmosphere for the purpose of evaluating possible chemical threats to stratospheric ozone.

Question: Why is 1986 the optimal time for a launch? What would be lost by a 1988 launch?

Answer: A 1986 launch of the first UARS would have provided coverage during the minimum and ascending portions of the solar cycle to complement earlier (although less extensive) satellite measurements of ozone and some species that affect it. The contemplated two year slip to 1988 will result in missing this opportunity. Although less desirable, a 1988 launch will still provide data on the stratosphere (chemistry, and dynamics) in time to support decisions around the end of the decade to tighten or relax controls on chemicals such as freons. Timely UARS data are urgently needed if these decisions are to be soundly based. Ground-based rocket and balloon studies alone will not provide the needed data.

Question: What is the status of the development of the instruments for UARSE?

Answer: Most UARSE instruments are high-heritage derivatives of previously flown instruments, or instruments now in development of fabrication, involving the Nimbus, SAGE, HALOE, SME and Spacelab programs. Others are derived from instruments flown on balloons or rockets. Currently, all candidate instruments are undergoing conceptual design reviews pending completion of their respective definition studies and final flight selection. Detailed design will begin in 1982.

MATERIALS PROCESSING

Question: Have you seen increased private sector interest in materials processing in space?

Answer: Yes. In addition to the Joint Endeavor Agreement (JEA) now signed with the McDonnell-Douglas Astronautics Corporation, several JEA proposals have been received and are presently being evaluated. A Technical Exchange Agreement with the John Deere Corporation is nearing completion. Other industries have indicated interest, and contact, with information exchange, is continuing.

Question: What do you see as the value of basic research in this area to commercialization of materials processing?

Answer: Basic research is necessary to establish the scientific data to help ascertain where the potential for new, broader areas of commercialization may exist.

INTERNATIONAL SOLAR POLAR MISSION

Question: Could you please elaborate on what are the possible options for a two-spacecraft ISPM mission?

Answer: Five options to accomplish the International Solar Polar Mission have been reviewed by NASA: (1) a single launch of the full mission as originally planned on a Shuttle/Centaur in 1985; (2) full restoration of the ISPM with a Shuttle/Centaur launch in 1986; (3) two European Space Agency (ESA) developed spacecrafts launched in 1986; (4) an 1986 launch of a two spacecraft ISPM where NASA would develop a simpler spacecraft than the original mission assumed; and (5) a 1986 launch of a single ESA ISPM spacecraft.

The respective options are described in more detail below:

(1) A single launch in 1985 of the full-up mission was submitted as part of the January FY 1982 Congressional budget request which would allow the total mission objectives to be accomplished.

(2) Full restoration of the ISPM with a launch in 1986 (the ISPM was reduced to a one spacecraft (ESA) mission and the launch was slipped to 1986 as part of the FY 1982 Budget Amendment reductions). This option can be supported at reduced funding levels in FY 1981 and FY 1982, but requires additional funding in subsequent years and the total project cost estimate would increase. The total mission objectives could be accomplished.

(3) Two ESA developed spacecraft launched in 1986 which would provide for simultaneous measurements at both poles as originally planned, but neither spacecraft would be able to accommodate the coronagraph or x-ray telescope experiments. This option assumes the second spacecraft would be developed by ESA and provided to the United States at a fixed price of $40 million in FY 1981 dollars.

(4) Two spacecraft mission launched in 1986 where NASA would develop a simpler spacecraft would also provide for simultaneous measurements at both poles as originally planned, but the simplier spacecraft would not accommodate the coronagraph or x-ray telescope experiments. It has the advantage of being a U.S.-developed spacecraft; however, the cost of this option is higher than the two ESA spacecraft option.

(5) One ESA spacecraft only to be launched in 1986 which was submitted as part of the FY 1982 Amended Budget to Congress. This is the least cost option where NASA would provide experiments and associated investigator support for the ESA spacecraft. The ISPM would be launched on a Shuttle/Centaur combination. The reduced involvement by the United States in the mission will reduce the total science return of information about the Sun.

Question: How important do you feel this mission is to the Europeans and our European relationships? On what are you basing this?

Answer: ISPM is a critical element of the European Space Agency's space science program. This is evidenced in their long standing commitment to the mission from study inception in the early 1970's through their current continued development activities. They have spent approximately half of their total estimated cost-through-completion to date (approximately $200 million). The evidence of their interest in and commitment to the success of ISPM has recently been reinforced by their communications, both as a consortium through the Director General of ESA and individually as member states through their embassies, to the State Department, OMB, NSC, OSTP, NASA and the Congress. These strong representations to all elements of U.S. Government have indicated that U.S. actions on ISPM may well influence prospects for future cooperative endeavors in space, and, more broadly, in all areas of science and technology.

A further indication of ESA's seriousness about ISPM is their recent proposal to NASA to provide a second spacecraft for the mission at a fixed cost to NASA of $40 million. This proposal includes guarantees by ESA to cover any cost overruns.

In the concluding paragraphs of the letter from the Director General of ESA to the Acting NASA Administrator, the Director General states:

> "You should be aware that ISPM has become something of a test case in Europe. We are convinced that a negative response to a solution which satisfied the various scientific, technical and financial constraints, would be interpreted as a serious lack of political will, which would jeopardise future cooperatives missions in space and possibly in other fields. I believe that several segments of the United States executive and congress may share our concern about this aspect of the matter.
>
> "In conclusion, let me reiterate that Europe and ESA consider cooperation with the United States and NASA in space projects as a cardinal element of our future policy and we intend that the present difficulties on ISPM will henceforth help establish between ESA and NASA more stable and rewarding links."

QUESTIONS SUBMITTED BY SENATOR HUDDLESTON

SPACE SHUTTLE

Question: The original Carter Administration budget request for the Space Shuttle research and development account was $2.230 billion. The Reagan budget reduced this by $36 million. The House Authorization Committee reduced it a further $60 million. Please explain the impact of these reductions.

Answer: The impact of the $36.0 million reduction for Space Shuttle production in the FY 1982 Amended Budget included a $20 million reduction in the long lead material procurement for a fifth orbiter vehicle from $25 million to $5 million. Assuming a full start of fabrication and assembly in FY 1983, this reduction would delay the probable orbiter delivery from late 1986 into 1987. The remaining $16 million reduction in Space Shuttle production defers funding for the orbital maneuvering system payload bay kit and delays its delivery one year to 1984.

The $60 million reduction proposed by the House Authorization Committee would seriously jeopardize our ability to provide for necessary hardware and systems changes and to meet the present delivery schedule. The primary impact would be delay of the fourth orbiter delivery. The impact on critical national security missions resulting from schedule delay could force compensating actions by the Department of Defense, costing the taxpayer far more than this reduction would save.

Question: For the record, would you explain exactly what is in the Space Shuttle account and what is in the Space Flight Operations account?

Answer: The Space Shuttle account and the Space Flight Operations account represent the two major budget line items of the space transportation system. The Space Shuttle budget consists of the following items:

(1) Shuttle Design, Development, Test and Evaluation - This is the initial phase of the space transportation system. This phase provides the initial flight hardware and the first four flights of the system. The subcategories within this line are orbiter, main engines, solid rocket boosters, external tanks, and launch and landing.

(2) Production - This phase provides the additional hardware to complete the fleet for the space transportation system. The subcategories within this line are orbiter, main engines, second line ground support equipment, and spares and equipment.

(3) Changes and System Upgrading - This budget line provides a reserve for unanticipated changes and added requirements in the design, development, test and evaluation and production phases of the program and provides for some system upgrading once we have gained appropriate experience with the system. There are no subcategories in this budget line, and it is intended that monies budgeted in the line will actually be spent in the DDT&E or Production phase of the Space Shuttle budget.

The Space Flight Operations budget consists of the following items:

(1) Operations Capability Development - Includes those activities necessary to prepare the Shuttle for the operations era: upper stages, multimission and payload support equipment, Mission Control Center upgrading (Level II), payload and operations support, operations effectiveness, and performance augmentation studies.

(2) Development, Test and Mission Support - Provides the common engineering, scientific and technical support required to conduct space transporation system activities at NASA field centers, including: research and test support, data systems and flight support, operations support, and launch systems support.

(3) Spacelab - Provides for the U.S. development and integration activities needed to carry out Spacelab missions. Specific items funded under this category include: crew transfer tunnel, verification flight instrumentation, Spacelab simulator, utility kits, etc. The Spacelab line item also includes funding for procurement of Spacelab follow-on hardware to support future Spacelab flights.

(4) Advanced Programs - Future systems requirements, cost and capabilities studies are carried out in this line item to support the definition of future initiatives. Specific initiatives include: studies on unmanned low altitude platforms, unmanned geostationary platforms, and a manned space operations center.

(5) STS Operations - This budget item supports the following sub-items: Shuttle operations, payload support operations, upper stage operations, and Spacelab operations. Shuttle operations, the largest funding item in this section, provides for procurement of external tanks and solid rocket booster hardware and for other activities required for conduct of operational Shuttle missions. Among the activities included are: launch, flight, landing and ground turnaround; cargo analytical integration and mission planning and operations; flight crew operations and equipment; orbiter spares and engineering support; procurement of external tanks, solid rocket boosters, main engines and propellants, ground systems operations, logistics and sustaining engineering.

Question: During the first flight, the Space Shuttle experienced a gouge of some eight inches or so in the tiles. Have you determined the cause of this and how it might be rectified? Do you anticipate any major design change requirements as a result? Do you anticipate any increased costs associated with resolving this problem? If the gouge was caused by icing, does this mean that you will have additional difficulties at Vandenberg?

Answer: The exact cause of the eight-inch gouge in the nose gear door tiles is not known. Investigation is continuing.

All indications are that it occurred during the ascent phase. Ice from the external tank's gaseous oxygen vent louvers appears to be the most probable cause.

An external tank vent collection system modification is being considered to more effectively prevent ice formation. If this redesign is the only item required to fix the problem, then the increase in cost will be minor, but it is too early to determine the extent of hardware modifications required.

It is believed that the problems associated with ice formation and launch debris damage to tiles will be resolved prior to Vandenberg operations.

Question: During the first flight, there was also apparently some damage to the solid rocket boosters (SRB's). Can you evaluate that for us? Are there any major engineering problems associated with this? Any additional costs?

Answer: There was some damage to the solid rocket boosters (SRB's) that occurred after the boosters were separated from the external tank during reentry. The specific anomalies that occurred were as follows:

Damage to the main parachute flotation packages. These flotation packages, which are mounted near the apex of the parachutes, are used for flotation after the parachutes are separated from the booster. The damage resulted in the loss of two of the parachutes (6 are used, 3 on each booster). A new design is underway and should be available for STS-3. This is not a major problem.

Excessive temperatures in the aft skirt during reentry. This problem is attributed to the loss of the thermal curtain which is located in the aft skirt to protect the interior of the skirt from the reentry aerodynamic loads and temperatures. Evaluation is underway to isolate the specific cause of the failure. The preliminary assessment indicates the curtain may have been damaged by the pyrotechnic loads during the separation of the nozzle exit cone. There is some indication that the damage could also have been caused by some flutter of the curtain during reentry. In order to correct for this malfunction, a redesign of the curtain is now in process. This is not considered a major engineering redesign problem, but is one that may not be completed until we begin our operational period. We do, however, have some changes planned to reduce the loads on the existing curtain design by means of delaying the sequence of the nozzle exit cone separation. As a result of the curtain failure with the resultant high temperatures in the aft skirt, there was damage to the auxiliary power units, and also some damage to the structural stiffener rings.

With respect to additional costs, there will be some costs associated with the redesign of the thermal curtain, flotation packages, and repair to the aft skirt. These costs are currently being assessed. A report should be available in late June.

Question: In addition to the gouge and the SRB problems, were any other difficulties encountered on the first flight?

Answer: The STS-1 flight was amazingly trouble-free. The 51 currently identified anomalies are relatively minor in nature and well below that expected for the shakedown flight of a vehicle as complex as the Space Shuttle.

The majority of the anomalies are in the areas of data sensor failures, minor leakage, filter clogging, and thermal control difficulties. None of these affected the mission, and all are easily corrected.

The only anomaly which affected the objectives of the mission was the failure of a data recorder. This resulted in the loss of some descent sensor data. However, the condition of the orbiter and the data that was obtained shows the descent environment was well within the expected range.

Two areas of concern exist in the thermal protection system. While some minor tile damage occurred during landing and was expected, there is evidence that some tile damage also occurred due to liftoff debris and possible separation debris. In addition, delamination of a local area of the aft skin on the right-hand orbital maneuvering system pod occurred. It is possible that the damage was caused by solid rocket booster/Space Shuttle main engine plume radiation or by flow through the elevon to fuselage gap. In any event, tiles will be added to this area. Corrections in these two areas are in work and are expected to be completed in time to support the launch of STS-2 on September 30, 1981.

Question: One of the principal missions envisioned for the Shuttle is the placement of payloads into orbit. The manipulator arm, however, has yet to be tested. To what extent will that be done on the next flight?

Answer: On STS-2 the Remote Manipulator System (RMS) will be fully integrated into Columbia for the first time. In orbit, the manipulator will be destowed from its position and certified for zero gravity operation. These tests, which exercise the RMS without a payload, will be performed by astronauts Truly and Engle. These tests will check out the software package, the camera system, and the RMS response to vernier thruster firings.

On succeeding flights, the RMS will handle experiment packages. The first international payload (SPAS-01) will involve RMS handling on a flight early as STS-5. Complete arm certification will occur after an 8,000 - 10,000 pound simulated payload is flown on a later flight.

Question: You have three more test flights scheduled. What tests that impact payload development remain to be conducted on each of those flights?

Answer: The Remote Manipulator System (RMS) tests scheduled for the STS-2 flight were discussed in the previous answer. Current plans for the STS-3 flight do not have any specific RMS tests but we plan to exercise the port side RMS arm to conduct a contamination survey by measuring gaseous and particulate contamination in the vicinity of the payload bay during orbital operations. The RMS will be operated by the crew to pick up the Induced Environment Contamination Monitor (IECM) experiment (weight = 800 pounds) located on a pallet in the payload bay and then position the IECM at planned locations in the vicinity of the payload bay to obtain measurements of the environment. With the exception of release, this activity is a payload deployment operation. Measurements of the orbiter environment are needed to verify that contamination associated with orbiter systems (such as the Reaction Control System (RCS) engines, the flash evaporator system, subsystem venting and overboard dumps and outgassing from surface materials) will not preclude or seriously interface with contamination-sensitive payloads and/or payloads data acquisition during future orbital flights.

During the STS-4 flight, we plan to exercise the port side RMS arm in conjunction with the IECM experiment package to conduct a repeat of the contamination survey measurements obtained on STS-3. In addition, it is planned to obtain plume impingement data caused by the operation of the orbiter RCS in conducting future payload rendezvous and capture operations by the orbiter. This survey will measure the actual plume flow field (we plan to fire the RCS thrusters in the sequence now planned for future rendezvous and capture maneuvers) to allow verification of the analytical models being used to develop rendezvous and capture methods that will be adopted for operational usage.

In addition to these specific tests related to payload development operations, each test flight will have increasing ascent performance and structural loads, long duration on-orbit thermal and flight control system tests, and expanded entry aerodynamic and thermal environment tests to obtain acoustic, vibration, pressures and temperature data within the payload bay area.

Question: Please provide for the record a summary of the significant tests to be conducted on each of the three remaining test flights (tests other than those related to payload deployment as mentioned above).

Answer: The significant tests to be conducted on the three remaining test flights include:

1. Hydraulic circulation pump tests
2. Airlock/Extra-Vehicular Maneuvering Unit demonstration
3. Attitude and translation capability
4. Orbital Maneuvering System tests
5. Communications testing
6. Entry aerodynamics/structural tests
7. Ascent flutter
8. Inertial Measuring Unit, Coarse Optical Alignment Sight and Star Tracker calibration and verification testing
9. Radiator heat sink tests
10. Reaction Control System thermal testing
11. Air Data System testing and calibration
12. Passive thermal control

13. Back-Up Flight System testing

14. Propulsion heat soakback data acquisition

15. Active Thermal Control System testing

16. Plume impingement survey

17. Shuttle Infrared Leeside Temperature Sensor

18. Shuttle Upper-Atmosphere Mass Spectrometer

19. Shuttle Entry Air Data Sensor

Question: The first test flight involved a comparatively easy trajectory and straightforward decent. How do these compare with what we can expect on operational flights? What do you plan in terms of trajectories and descents on the remaining test flights?

Answer: The Space Shuttle test program has been designed to progressively expand the envelop describing the operational environment of the system. During the remaining test flights, the ascent maximum dynamic pressure will be progressively increased from 640 pounds per square foot (psf) to 680 psf, the entry bondline/surface temperatures will be increased from 313°F/2504°F to 338°F/2595°F (these numbers relate to normal operating limits of 680 psf and 350°F/2626°F respectively). The STS-4 entry will be flown at the operational angle-of-attack profile that can achieve maximum orbiter cross range capability. At the conclusion of the test flights the system environmental envelope will have been expanded sufficiently to initiate operational missions. During the initial operational flights, a modular auxiliary data system will be employed to monitor further expansion of the system capabilites.

Question: Several months ago, NASA was reportedly sending Vandenberg about 1500 change orders per month. These slowed as the first test flight approached. Should we anticipate a return to the 1500 rate--or perhaps even more as a result, first, of the stop during flight preparations and, second, of the test flight itself? How demanding, time-consuming and costly would you expect the impending engineering changes to be?

Answer: NASA provides copies of all proposed changes to the Air Force at the Air Force's request. Very few result in direction to the Air Force or have impact on Air Force operations. The 1500 change orders per month is an incorrect indication of change traffic on the Shuttle program. The 1500 number includes detailed paperwork associated with the implementation of a change, i.e., procedure changes, Master Measurement List changes, etc., and they do not need reevaluation.

NASA changes will be fewer in the future since the STS-1 baseline has been established. An increase can be expected on the Air Force side as emphasis shifts to VAFB. Geographical and environmental differences will be factors and may result in some changes required at the NASA-KSC launch site.

All approved changes are mandatory and assessment by the Air Force for 90 percent of the changes will require 10-12 manhours per change. The remaining 10 percent will require greater time.

Question: Because of the heavy traffic load projected for Vandenberg in late 1984-early 1985, it now appears as if DOD will require two orbiters at Vandenberg for an extended period during that time. What has NASA actually scheduled in terms of orbiter time at Vandenberg for that timeframe?

Answer: The projected launch traffic at Vandenberg for CY 1984 and 1985 is one flight and five flights, respectively. The first flight is not dependent on orbiter turnaround. The second and subsequent four flights in 1985 could endure turnaround times about twice as long as is being projected today and still meet the launch requirements. The conservative flight schedule in the early year of operation of VAFB guards against any unforeseen major difficulties in the operational work flows.

At present, it is felt that providing Shuttle Orbiter OV-103 at Vandenberg should be sufficient to accommodate flight rates of at least 9 per year based on joint NASA/USAF studies late last year. Also orbiters can be shifted from Eastern Space and Missile Center, as required, to support peak launch demands.

Question: One orbiter - 103, I believe, - is suppose to be lightened to accommodate DOD requirements. Will you be able to meet DOD specifications for that orbiter? How are you accomplishing this? When you do you plan to have a second orbiter that will meet or exceed the 103 requirements?

Answer: Orbiter 103 flown with 109/109 RPL engines, lightweight external tank and solid rocket boosters, and the performance improved solid rocket boosters on a 2 man/1 day delivery only mission has a payload capability of 31,300 pounds. The Performance Reference Mission 4 is 4 man/7 days, deploy 32,000 pound payload and retrieve 25,000 pound payload in a single flight. For this mission Orbiter 103 configured as described above has a 24,000 pound payload capability. Additional payload capability to meet the Reference Mission 4 can only be attained with performance augmentation. There are three primary options being studied currently to increase the payload capability. They are; the liquid boost module, 115 percent RPL main engines and filament wound solid rocket booster casings.

Orbiter 104 which is scheduled to be delivered in December 1984 is the next vehicle delivered after Orbiter 103 and will have the same capability.

Question: You have encountered a problem with production of the external tanks. Please explain in some detail the production schedule originally envisioned and that currently contemplated. Why are you so late in recognizing this problem? Will there be any cost impact on the external tanks as a result of this development?

Answer: The previously planned level of 14 tanks produced in FY 1984 and 22 tanks in FY 1985 would have supported a Space Shuttle flight plan of 48 flights through 1985; the current assessment is that the realistic maximum tank production capabilities is about 40 tanks through FY 1985 which could support 36 Shuttle flights through that time period, including the four developmental flights. However, a less risky and more cost effective approach has been adopted by NASA which is to plan for a production of 38 tanks through 1985, which will support 34 Shuttle flights.

No single problem led to the reduction in the assessment of the tank build rate. Rather it was an accumulation of problems during the period from the fall of 1980 through March of 1981. These problems included revised engineering estimates for flight airloads, debonding of instrumentation islands insulation, debonding of the superlightweight ablator (SLA) after cryogen loading tests and a problem in the chemical composition of the Spray on Foam Insulator (SOFI) that caused the successive layers not to adhere to each other.

The above factors, together with additional experience which indicates that the tank insulation fabrication and processing were more time-consuming that originally anticipated, have forced us to reduce our estimates of the production rates achievable in the early years.

Adjustments have already been made to the external tank funding in 1981 to help alleviate the problems and recover the early hardware build schedule to the extent possbible.

Adjustments to the FY 1982 funding are currently being considered and will be implemented as necessary from within the available funding for the Space Shuttle.

Question: Your transportation plan is, I understand, being reduced substantially. What is your current model? Is the reduction due solely to the external tank production problem?

Answer: A decision has been made to reduce flight rate through 1985. The total STS traffic model (post 1985) is currently under review which should be complete in the Fall.

At the time of the decision to reduce the early year flight rate, the FY 1982 budget reductions and external tank production considerations were the dominant reasons.

Question: What is the cost impact of the reduction in scheduled flight? How will the cost increase be allocated?

Answer: A total STS traffic model including post 1985 flights is currently under review. When a traffic model is determined, a cost impact (cost per flight) can be assessed.

Question: Please list the amounts allocated in FY 1980 and FY 1981 and requested for FY 1982 for Shuttle logistics support (spare parts, technical data, etc.). What will these amounts actually buy? Is this sufficient to support flight operations? If not sufficient, how will you support actual flight operations?

Answer: The approximate amounts included in the plans for Shuttle development, production, and operations for logistic support are as follows:

FY 1980	$100 million
FY 1981	$125 million
FY 1982	$200 million

The largest portion of these amounts is for orbiter spares, including continuation of spares lay-in and replenishment for the development and flight test program, overhaul and repair of those spares as needed, and lay-in of additional spares to support the higher flight and processing rates in Operations. The estimates also include spare engines and components, solid rocket booster subsystem spares, ground system spares, transportation, repair activities, logistics manpower, and logistics technical data required to support operations.

Question: What do you anticipate in terms of turnaround time between each of the test flights and during the first two years of operational flights? Do you have the same expectations with regard to Kennedy and Vandenberg? What are your near-term goals in terms of turnaround time? When would you expect to validate turnaround time?

Answer: The turnaround times between test flights are planned to be about 24 weeks, or 5 1/2 months, between the first and second launches (STS-1 and STS-2) and then reduce to about 17 weeks average, or 4 months, between flights for the next three missions. For the two years following the first operational flight, the turnaround time between flights is planned to decrease progressively from four months to five weeks by the fall of 1984. Of course the turnaround time between any two particular missions may take longer because it is highly dependent on the payload involved and on the mission kits that must be removed from the prior mission and those that must be installed for the subsequent mission.

We do not have the same expectations in regard to Kennedy and Vandenberg. VAFB does not need to launch as often as the Kennedy Space Center (KSC) does, and VAFB has an entirely different vehicle assembly concept and processing sequence. Therefore, VAFB turnaround sequences are expected to be longer than those for KSC.

Our turnaround goal for mature operations at KSC continues to be two weeks as originally planned. At present, our capability is predicted to be four weeks by the 20th mission, depending on payloads and mission kits, as stated previously. However. the turnaround times are expected to become shorter as a direct result of enhancements undertaken to improve operations in problem areas such as vehicle element mating and thermal protection systems closeouts. We are continuing to work toward the two week turnaround goal.

We expect to validate the four-week turnaround by the 20th mission. Validation of shorter turnarounds (e.g., the two-week turnaround) will be dependent on a balance between the funding available for the enhancement program and the turnaround time needed for the mission manifest.

Question: If Vandenberg's initial operating capability (IOC) slipped six months, what impact would that have on your transportation model? A year? Eighteen months?

Answer: NASA and the USAF are assessing the impact of VAFB slips at this time. Program sensitivity appears to lie predominently with the USAF.

A six month to one year slip, to August 1985, would impact at least six USAF missions.

Question: Since the first flight of the Shuttle was a success, commercial interest should have been spurred. What specific impact has this had? Can you accommodate all potential users? If not, how will you set priorities?

Answer: While the launch of STS-1 has indeed spurred interest from the general public, we have not received any additional firm requests for flight assignment. Most of the interest we are seeing is from the media and from individuals who are under the impression we are accepting reservations for passengers similar to an airline.

The early Shuttle users have been planning and developing their payloads for several years. Should additional serious users materialize, we will be able to accommodate them beginning in 1986. Prior to that time, the manifest is generally saturated with priorities for space being set on the basis of the following:

a. DOD payloads requiring urgent STS support to establish and/or maintain national security capabilities.

b. Significant science and technology mission and/or missions with critical launch window constraints, and missions required for the establishment and maintenance of the space transportation system.

c. All other payloads.

Question: DOD has been interested in thrust augmentation/ performance enhancement or whatever you are calling it these days. What is the status of NASA efforts in this area? At one point, it appeared as if strap-on boosters were the preferred method. Now, I understand other means are under consideration. What are the alternatives. Is the technology for each proven? What are the relative costs?

Answer: NASA is currently studying several approaches for providing performance augmentation in addition to the strap-on liquid propulsion module which has been studied in some detail. The first need date for performance augmentation of early 1987 has allowed consideration of two additional concepts: uprating the main engines to 115 percent rated power level and reduction of solid rocket motor inert weight by use of filament-wound composite case segments.

No new technology is required for any of these concepts although each will require design, development, and test efforts. The costs for design, development, test and evaluation will be comparable for each concept but it is expected that the cost-per-flight for the uprated main engine and the filament-wound case segments will be less than for the liquid propulsion module.

Question: You have $300 million in your request for changes and systems upgrading. How did you derive the $300 million figure?

Answer: The $300 million estimate represents 17.6 percent of the funding requested for Space Shuttle design, development, test and evaluation and production. The Space Shuttle Changes and Systems Upgrading requested for FY 1982 is to provide for potential changes, systems modifications and unanticipated events in the development and production phases. The NASA Administrator determined that the $300 million provided an adequate resource allowance for necessary programmatic and technical changes which might result from Space Shuttle development flight testing, and experience in production activities so as to avoid disruption of production hardware funding and delivery schedules. This was predicated on an assessment that an absolute minimum reserve of $200 million was necessary for potential changes, based on the assumption of a generally nominal orbital flight test program, from which requirements would arise for only relatively minor ground and flight system changes and upgrading. It was further decided that it would be prudent, due to the optimistic assumption on the likelihood of necessary changes, to increase this change allowance by another $100 million to provide an increased level of assurance to cover requirements which might arise during the critical period of orbital flight testing in FY 1981 and FY 1982.

Question: You have $837 million in your request for orbiter production. How much is allocated to each orbiter and for what purposes? What is the current delivery schedule projected for each orbiter?

Answer: The line item for Orbiter Production includes not only the prime contractor activities for production of the orbiter vehicles, but related overall Shuttle system integration and orbiter support activities such as manned mobility unit, extravehicular mobility unit, closed circuit television, mission kits, and ground support equipment.

An approximate allocation of the $837 million requested for orbiter production for FY 1982 is as follows:

OV-099	Delivery June 1982	$76 million
OV-103	Delivery Sept 1983	369 million
OV-104	Delivery Dec 1984	225 million
OV-102 Modifications		15 million
OV-105 long lead procurement		5 million
Orbiter Support Activities		109 million
Shuttle Systems Integration		38 million
	TOTAL	$837 million

In the above allocation of costs, the amounts for specific orbiter vehicles include an assignment common support activities in the prime contractor plant, which are required to support the production flow, but not directly relatable to a specific orbiter.

INERTIAL UPPER STAGE (IUS)

Question: NASA pulled out of the IUS three stage development and opted for the Atlas Centaur. How do you justify this decision?

Answer: The Atlas Centaur is a two-stage expendable vehicle, of which the Atlas is the first stage and Centaur is the second stage.

NASA is planning on using a modified Centaur, wide body configuration, as an element of the STS for accomplishment of planetary missions.

NASA has been pursuing a three-stage version of the Inertial Upper Stage (IUS) currently under development for the Air Force to provide the requisite high energy upper stage for both the Galileo and the International Solar Polar Mission (ISPM) in 1984 and 1985 as the most cost beneficial means of mission execution. This program was initiated in 1976 as a part of the USAF managed IUS program. Preliminary design reviews on the planetary configuration were completed in mid-1980.

The last 1 1/2 years have shown extensive cost growth and performance deficiencies in the IUS. The most recent cost growth has increased FY 1981 and FY 1982 costs by a total of about $100 million. This has necessitated the slip of the Galileo and ISPM missions from 1984 and 1985 to 1985 and 1986. Slipping the Galileo from 1984 to 1985 increases the energy requirement markedly because of changes in the relative positions of the planets. With this increased energy demand, the only technically feasible IUS/Galileo mission is to launch the orbiter part of the Galileo spacecraft system on an indirect trajectory in 1985 and the probe in 1986. This extends the flight time to the planet by three years and does not provide science data on the Jovian systems until 1990. This is an unacceptable delay in obtaining the scientific data, and the cost of the Galileo mission in this mode is approximately $200 million more for development and mission operations than it would be if launched on a direct trajectory. Reliability of the spacecraft would also be degraded because of the extended flight time.

Based on the foregoing conditions, it has been determined that the planetary IUS development could not meet the mission requirements and that the initiation of the modification or development of a higher energy stage for planetary applications must be undertaken.

A cryogenic stage can launch both the Galileo probe and orbiter as a combined system with a single upper stage vehicle on a direct trajectory. This is a cost effective method of launching because of the reduction of flight time and the elimination of the need for two Shuttle launches. Furthermore, the ISPM and essentially all the planetary missions that are currently envisioned for the near future can also be performed by such a stage. This is due to the basic capability of a cryogenic upper stage to provide about two times as much injected mass at a given escape velocity than the IUS. This added capability is also available for the injection of heavy payloads, about 13,000 pounds, into geosynchronous orbit. The DOD has expressed an interest in this capability for heavy payloads which they are planning for the future.

The only cryogenic upper stage currently in the U.S. inventory is the General Dynamics Centaur, which is presently being used as an upper stage for the Atlas and has been used with the Titan launch vehicles. A number of other concepts, including some using storable propellants, have recently been explored by industry for the planetary application. These concepts include those pursued by the following contractors:

Lockheed/Rockwell International
Martin Marietta
Boeing
McDonnell Douglas

The Lockheed/Rockwell International and Martin Marietta concepts are not cryogenic hydrogen/oxygen systems and therefore do not meet the necessary performance requirements. The Lockheed/Rockwell concept is designed for geosynchronous orbit missions only (6 000 pounds to geosynchronous orbit) and as such is performance limited for planetary missions. The Martin Marietta concept is a modification of the existing storable propellant Transtage. Upon review of available data, it was determined that neither of these concepts could fulfill the requirements for planetary applications.

The Boeing cryogenic IUS concept is a new vehicle configuration which would draw heavily upon avionics and airborne support equipment under development for the two-stage solid propellant IUS. This concept appears technically feasible; however, it has not had extensive engineering design effort and is in its very early stages of definition. The material furnished by Boeing consists of limited conception description, illustrations and cost information. Before committing to the development of this concept, extensive studies (Phase B level) to define the concept would be required. Such an effort would not allow sufficient remaining development time to achieve the operational requirement date of early 1985.

The McDonnell Douglas S-IVC concept is a configuration similar to the previous space tug concepts studied by NASA.

It is sized to fit the orbiter payload bay and incorporates tank and insultation features utilized in the S-IV and S-IVB stages of the Apollo program last produced in 1975. It utilizes a single RL-10 engines and thus has some apparent weight and simplified plumbing advantages. The material made available by McDonnell Douglas was the result of an in-house study conducted in 1980. It is in more detail than expected of a NASA funded Phase A study, but requires further extensive definition studies (Phase B) prior to commitment of any significant development effort. While the concept is generally feasible, it lacks design maturity; and since the design and costs are not in sufficient detail for realistic evaluation by NASA, considerable cost and schedule risk would accompany its implementation without a thorough Government funded Phase B level study.

The McDonnell Douglas past experience with development of cryogenic stages and the facilities available to them demonstrate their capability to carry out a successful development given requisite time. In fulfilling this requirement through development of the McDonnell Douglas concept, however, the Government would have to embark on the development of an immature design concept without adequate assurance that such an effort would succeed within the time required, and with little possibility of recovery in the event of any technical reversal. It was thus determined not to pursue this alternative on the basis of the lack of present design maturity. The weight of experience with development programs of comparable magnitude and status led us to the conclusion that there is no possibility of meeting a 1985 launch date unless sufficient design maturity is available to permit prompt initiation of the development effort.

The General Dynamics wide-body Centaur is a technically defined modification of the Centaur stage used with the Titan and currently being used with the Atlas booster. This basic vehicle has been in the NASA inventory for the past 19 years and has flown 53 operational flights with a 96 percent record of success. The design, production, and launch operations Government and contractor teams are now at work on continuing Centaur orders extending through 1984. Tools and equipment for production, testing, and launch support exist now in mature form.

The changes that must be made to the Centaur to adapt it to the Shuttle are primarily structural and increased capacity tankage. Centaur in the Shuttle has been studied over the past ten years by three NASA Centers and the various contractors. NASA funded studies of design changes, safety aspects and Shuttle interfaces have been carried out by General Dynamics over the past two years at a cost of about $5 million. These studies have been in at least the equivalent detail of NASA-funded Phase B definition studies.

Procurement of the Centaur from General Dynamics would capitalize on this unique national capability and the substantial investment in facilities, test equipment, hardware and experience as well as reduce development/production risks to a minimum currently available. Conversely, initiating development of a new cryogenic stage would unquestionably take longer than modifying the Centaur. To run a full competition would delay both the Centaur and a new stage, and the availability of either because of the time necessary for the Government to prepare the requests for proposal, the contractors to respond and the Government to evaluate proposals, and negotiate the contract. If a Phase B study were done, time would be needed for the studies and another round of procurement before the development could start. The total process would take 18 months to two years before initiating development. In addition, a new stage would not approach the maturity and reliability of a modified Centaur for at least several years of operation.

CENTAUR/GALILEO

Question: What modifications must be made in the Centaur to enable it to accommodate the Galileo misson?

Answer: A majority of the existing Centaur systems are unchanged. Most system modifications are minor, dictated by mission peculiar requirements, interface compatibility, and Shuttle safety. All new hardware required is of conventional and existing design or use off-the-shelf qualified hardware without modifications. The following is a list of these systems for the three categories:

I. Existing hardware (no changes);

A. Propulsion Systems

RL-10 engines
Reaction control system
Hydraulic system

B. Structural Systems

Aft bulkhead, engine thrust structure and component mount
Intermediate bulkhead
Forward/aft bulkhead insulation system

C. Avionics Systems

Electrical and power distribution system
Power supply (batteries)

II. Modified Systems

A. Propulsion Systems

Pneumatic/pressurization (additional existing design valves to meet safety requirements)
Vent system (add zero-G vent system capability)
Fill/dump (add propellant dump capability)

B. Structural Systems

LH_2 tank (larger diameter for increased propellant load)
LO_2 tank (lengthened for increased propellant load)
Forward bulkhead (existing design increased in diameter)
Equipment module/stub adapter (existing design increased in diameter)
Tank insulation (adapted existing Titan/Centaur design)

C. Avionics Systems

Computer/guidance system (minor modifications for star-scanner)
Flight control (minor wiring changes)
Propellant utilization system (tank propellant quantity sensors reshaped to match tank configuration)

III. New Hardware

A. Propulsion Systems

No new systems

B. Structural Systems

Adapters (new mission peculiar or interface adapters of standard sheet/stringer design/construction)
Centaur/Orbiter separation system (Super-Zip system used on IUS and Titan/Centaur program)

C. Avionics Systems

TDRSS compatible transponder (will use standard NASA or IUS developed transponder)
Star-Scanner (use IUS developed star-scanner with no modifications)

Question: How do you answer the critics who say that it is not worth the cost of a sole source contract to make the Galileo flight in 1985?

Answer: The Galileo mission is just one of the missions which will utilize the wide-bodied Centaur. The International Solar Polar Mission, the Venus Orbiting Imaging Radar mission, and other potential future planetary and geosynchronous payloads also need the capability of the Centaur. It is our recommendation that the Galileo mission should be launched in 1985, using the Centaur as an upper stage. This recommendation is based on an extensive study of upper stage options conducted earlier this year. It was determined that a Shuttle/Centaur launch of the Galileo orbiter/probe in 1985 is the most cost-effective way to conduct the Galileo mission. The Galileo mission has been strongly recommended by the Space Science Board of the National Academy of Sciences and constitutes the heart of our program for the exploration of the outer solar system in this decade. The spacecraft development has been underway for over two years and the design and procurement of flight parts is nearing completion.

If a sole source contract for Centaur is not approved, a delay in the launch of Galileo to 1987 would cause an increase in the total cost of accomplish the mission of about $100-150 million. The delay would be an extremely inefficient way to utilize the highly specialized teams of scientists and engineers who are involved in the development of Galileo. Since the concept of the Galileo mission is sound and its importance in the total Space Science program is well established, any coherent program for planetary exploration will inevitably contain a mission to carry out a comprehensive investigation of the Jupiter system of the Galileo type.

Question: How do you answer those who say that even with the Centaur option, you are not going to make the 1985 launch date?

Answer: In order to minimize the cost impact of the delay of Galileo from 1984 to 1985, the contract deliveries will remain on the 1984 schedule. Those modifications necessary to recombine the probe and orbiter into a single 1985 launch are minor: reverification of interface requirements and the fabrication of a larger spacecraft/Centaur adapter. These modifications can easily be made in time to support the launch of Galileo in 1985. In addition, the upper stage studies and the resultant recommendation to develop the wide-bodied Centaur, which assumes a sole source contractor selection, shows that the Centaur development schedule is sufficient, although it is vital that the Centaur development be started in the June-August 1981 timeframe.

Question: What are your options if you do not meet the 1985 date?

Answer: The launch opportunities in 1985 for Galileo are extremely good since the launch window is approximately 25 days long. However, if the 1985 launch is not met, Galileo can be launched in the 1986 opportunity as the Centaur provides the opportunity to launch Galileo in every Jupiter opportunity, which occurs approximately every 13 months.

Question: What is the total cost estimate of adapting the Centaur for Galileo? How much in each of the fiscal years involved?

Answer: The Galileo mission to be launched in April/May 1985 will be the first use of the wide-body Centaur capability, but the Centaur planned usage also includes International Solar Polar Mission in 1986 and the Venus Orbiting Imaging Radar mission in 1988 as well as heavy geosynchronous spacecraft weighing up to 13,000 pounds. Current estimates for development and production costs for the first two missions are shown as follows:

(Costs Real Year Dollars in Millions)

	FY 81	FY 82	BTC	Range
Current Development Including Galileo and ISPM launches	10	85	340	435

Question: What type of agreement do you currently have with Boeing regarding the Centaur?

Answer: NASA has signed a letter contract with General Dynamics Convair allowing us to undertake design and initial development activities on the wide-body Centaur on a schedule that supports the 1985 Galileo launch. We are currently evaluating their proposal, and assuming we continue with the STS/Centaur integration, we will enter into the final contract about January 1, 1982.

Question: What would be your options if Congress directed that you not enter into a final contract until a full competition has been conducted?

Answer: The only option would be to conduct a competitive procurement for a cryogenic upper stage, which could not be available until early 1987. This would significantly increase the cost of the Galileo mission and the cost of the upper stage development.

Question: What would be the impact if Congress directed a fixed price contract?

Answer: The fixed price mode of contracting was given consideration by NASA. It was concluded that, given the uncertainties of the program, it was not to the benefit of the Government to pursue that course of action. It has been NASA's experience that, in most cases, fixed price development programs are not advisable because of inevitable changes, which rightfully allow the contract price to be negotiated upward and because of the lenghty and costly delays that may be encountered because of the contractor's reluctance to proceed before changes have been clearly defined. The Centaur program is particularly sensitive to delays because of the tight schedule to meet the Galileo launch.

The NASA RFP's therefore specified cost plus incentive fee and cost plus award fee arrangements with incentives on cost and technical performance and the contractor proposals were submitted on that basis. If Congress directed a fixed price contract, the RFP's, as well as the contractors' proposals, would have to be revised, which would cause a considerable schedule impact. In addition, the bid prices would have to be higher in order to cover contingencies resulting in near term budget problems.

Question: After Galileo, what are your next requirements for an upper stage? Could a full competition be conducted prior to the time for meeting those requirements?

Answer: The next firm requirement for a wide-body Centaur after Galileo would be to provide a launch opportunity for the International Solar Polar Mission in 1986. If a full competition for a cryogenic upper stage were required, it would be early 1987, before an operational capability would exist.

Question: Once adapted for Galileo, does Centaur then meet requirements for any other NASA missions or would further modifications have to be made, such as for the International Solar Polar Mission?

Answer: If it is decided that Solar Polar will be a dual spacecraft mission, then it may be necessary to integrate a solid kick motor with the Centaur. If a single spacecraft mission is selected, no Centaur changes will be required. Only minor mission specific changes would be needed for the Venus Orbiting Imaging Radar mission or heavy geosynchronous payloads.

UPPER STAGE REQUIREMENTS

Question: What are the details of the NASA/DOD agreement to conduct a study of upper stage requirements? Will we have some conclusions prior to the time of our FY 1982 mark-up?

Answer: The NASA and the Air Force have initiated a 90-day study to review upper stage requirements and options. The approach will be similar, with expansion in some areas, to the study which resulted in presentation to and mutual agreement at the AACB meeting of March 9, 1981. It is planned to respond to the Committees no later than mid-June with a preliminary report and in early August with a definitive statement.

Question: What is the total amount allocated to upper stage development in the FY 1982 budget? How much of that will go to Centaur and how much to other upper stage efforts?

Answer: The total upper stage development in FY 1982 is $75 million. Of this, Centaur development is $64 million and IUS development is $11 million.

Question: Leaving any individual system aside, what are the general long term NASA requirements/specifications for an upper stage?

Answer: The Tracking Data and Relay Satellite (TDRS) mission requirements to geosynchronous orbit will continue until late in this decade. Effort is currently underway to identify costs as associated with procurement of a seventh IUS for TDRS-G in 1986. Late in this decade, payloads such as large space structures to geosynchronous orbit will probably also be a requirement. These missions will require a heavy lift capability with thrust characteristics compatible with large fragile structures. Relative to planetary missions, the Galileo is scheduled for 1985, the International Solar Polar Mission is scheduled for 1986 and the Venus Orbiting Imaging Radar is planned for 1988. These missions require a high energy stage, which for all practical purposes mandates a cryogenic vehicle as the only choice. Long range plans beyond 1988 include development of an orbital transfer vehicle with eventual growth to provide manned capability beyond low Earth orbit. Such a vehicle would also probably be cryogenic in order to obtain high performance.

EXPENDABLE LAUNCH VEHICLES

Question: You have requested $31.2 million for expendable launch vehicles. What payload is associated with each?

Answer: The funds requested for FY 1982 in the amount of $31.2 million will be used for hardware procurement, engineering, technical support, vehicle testing, and checkout and launch operations in support of NASA scientific and applications spacecraft programs. During CY 1982 expendable vehicles will launch the following NASA spacecraft:

Vehicle	Spacecraft	Planned Launch Date
Scout	San Marco D_L	3 Qtr 1982
Delta	Infrared Astronomical Satellite (IRAS)	2 Qtr 1982
Delta	Landsat-D	3 Qtr 1982

Question: When does NASA intend to terminate ELV use?

Answer: Although NASA's need for expendable launch vehicles has been drastically reduced, a continuing use of these launch vehicles is necessary to support reimbursable customers who cannot be satisfied by the Shuttle during the first half of this decade. Based on our preliminary planning and scheduling of firm requirements, expendable launch vehicles are planned as follows:

Vehicle	Last Mission Schedule
Scout	4th Qtr 1985
Delta	2nd Half 1985
Atlas Centaur	3rd Qtr 1984*
Atlas-F	1st Half 1985**

*INTELSAT has an option to launch three additional missions. If the option is exercised, scheduling would be extended to late 1985.

**NOAA has a potential requirement for an Atlas-F launch in 1987 from the Western Space and Mission Center.

It is NASA's intention to continue supporting the user community with an ELV launch capability as long as may be necessary during the phase in of Shuttle operations.

INTERNATIONAL SOLAR POLAR MISSION

Question: Several options on ISPM are currently being discussed -- the full mission, the budget proposal, a limited U.S. spacecraft, two European spacecrafts. What is the relative technological advantage/disadvantage of each?

Answer: Five options to accomplish the International Solar Polar Mission (ISPM) have been reviewed by NASA: (1) a single launch of the full mission as originally planned on a Shuttle/Centaur in 1985; (2) full restoration of the ISPM with a Shuttle/Centaur launch in 1986; (3) two European Space Agency (ESA) developed spacecrafts launched in 1986; (4) A 1986 launch of a two spacecraft ISPM where NASA would develop a simpler spacecraft than the original assumed; and (5) a 1986 launch of a single ESA ISPM spacecraft. The respective advantage/disadvantage of each option is as follows:

(1) A single launch in 1985 of the full-up mission was submitted as part of the January FY 1982 Congressional budget request which would allow the total mission objectives to be accomplished.

(2) Full restoration of the ISPM with a launch in 1986 (the ISPM was reduced to a one spacecraft (ESA) mission and the launch was slipped to 1986 as part of the FY 1982 Budget Amendment reductions). This option can be supported at reduced funding levels in FY 1981 and 1982, but requires additional funding in subsequent years and the total project cost estimate would increase. The total mission objectives could be accomplished.

(3) Two ESA developed spacecrafts launched in 1986 which would provide for simultaneous measurements at both poles as originally planned, but neither spacecraft would be able to accommodate the coronagraph or x-ray telescope experiments. This option assumed the second spacecraft would be developed by ESA and provided to the United States at a fixed price of $40 million in FY 1981 dollars.

(4) Two spacecraft mission launched in 1986 where NASA would develop a simpler spacecraft would also provide for simultaneous measurements at both poles as originally planned, but the simpler spacecraft would not accommodate the coronagraph or x-ray telescope experiments. It has the added advantage of being a U. S. developed spacecraft, however, the cost of this option is higher than the two ESA spacecraft option.

(5) One ESA spacecraft only to be launched in 1986 which was submitted as part of the FY 1982 Amended Budget to Congress. This is the least cost option where NASA would provide experiments and associated investigator support for the ESA spacecraft. The ISPM would be launched on a Shuttle/Centaur combination. The reduced involvement by the United States in the mission will reduce the total science return of information about the Sun.

Therefore, the advantage/disadvantages are more closely related to the amount of science return and the total funding required for each respective option than it is to relative technological advantages or disadvantages.

Question: What is the projected total cost of each of the above:

Answer: The projected total cost of the options mentioned above are shown on Table A attached.

TECHNOLOGY UTILIZATION

Question: Please provide for the record a list of activities undertaken in FY 1980 and 1981 under the Technology Utilization program. Identify grants, contracts, cooperative agreements.

Answer: See attached Table B.

Question: The Carter request for technology utilization was $14.6 million; the Reagan budget was $4.6 million. What activities would be terminated or reduced as a result of this cut?

Answer: Technology Utilization activities deleted from the FY 1982 funding plan are listed on Table C attached. All remaining activites will operate at reduced levels in FY 1982.

AERONAUTICAL RESEARCH AND TECHNOLOGY

Question: What is NASA's involvement in alternate fuels research? What is the status of the FY 1982 program?

Answer: NASA has an ongoing research and technology effort in future aviation turbine fuels which is focused on technology to utilize broadened property fuels refined from low-quality petroleum crudes and syncrudes derived from such alternative sources as shale oil and coal. The elements of this program include 1) basic characterization of laboratory samples of potential future fuels to gain a fundamental understanding of the relationship between fuel properties and their chemical composition and structure, 2) assess the effects that variations in fuel properties have on the performance of combustors and fuel systems, and 3) limited concept definition and evaluation of advanced combustor engine and fuel system technologies to accommodate broad property fuels. In applying the additional $1.5 million made available by Congress for FY 1981, the ongoing effort was expanded in the following areas:

- refinery studies to identify the sensitivities of fuel supplier and user sectors to changes in fuel properties and refinery feedstocks
- correlation of fuel composition/structure to critical aircraft fuel system operating parameters (i.e., thermal stability and freeze point which can affect fuel flow, altitude relight, fuel system controls, etc.)
- experimental efforts relating fuel properties (i.e., aromatic content) to combustion system performance.

The FY 1982 activities will be focused on gaining a fundamental understanding of broad property fuels and their effect on combustion

TABLE A

INTERNATIONAL SOLAR POLAR OPTIONS

	Launch	FY 79	FY 80	FY 81	FY 82	Balance to Compl.	Total Proj. Cost Range	Shuttle Launch
Single Launch on Shuttle/Centaur (Jan Cong. Budget Req)	1985	12.5	47.9	39.6	58.0	172-220	330-380	$46M
Full Restoration of ISPM Mission launched on Shuttle/Centaur	1986	12.5	47.9	25.0	30.0	295-345	410-460	$50M
Two ESA Spacecraft Mission on Shuttle/ Centaur	1986	12.5	47.9	25.0	5.0	145-160	235-250	$50M
Two Spacecraft Mission where NASA would develop a simpler S/C than original mission	1986	12.5	47.9	25.0	5.0	220-240	310-330	$50M
ESA Spacecraft only on Shuttle/Centaur (FY 1982 Amended Budget Request)	1986	12.5	47.9	25.0	5.0	20-40	110-130	$50M

TABLE B--NASA TECHNOLOGY UTILIZATION ACTIVITIES FOR FY 1980 AND FY 1981

TITLE	PURPOSE	TYPE
SUB-SURFACE DRAIN MALFUNCTIONS	LOCATION OF SURFACE DRAINAGE FROM AG LANDS	CA-C
MEMBERSHIP COMPUTER AIDED MANUFACTURING, INTL.	CAMI PROMOTES STANDARD METHODS & RESEARCH IN CAM	CA-C
MOBILITY AID FOR THE BLIND	IMAGE SENSING & SCENE ANALYSIS FOR BLIND	CA-C
GAIT ANALYSIS	COMPARE HANDICAP TO NORMAL WALKING MUSCLE ACTIVITY	CA-C
PARTITIONAL COOLING	THERMAL BODY CONTROL DEVICES FOR QUADRIPLEGICS	CA-A
STANFORD UNIVERSITY SCHOOL OF MEDICINE	BIOMEDICAL APPLICATIONS TEAM	G
LONG BONE RECONSTRUCTION	MEASURE STRAIN TO OPTIMIZE REGROWTH OF LEG BONES	C
AERODYNAMICS OF GROUND VEHICLES	AERODYNAMIC STUDIES OF TRUCKS	G
RADIOMETER	INFRARED SPECTRUM FOR IND. & AGRI. APPLICATIONS	CA-C
SPECTROMETER	INSTRUMENT FOR ELEMENTAL ANALYSIS OF SOIL & WATER	CA-C
UNIVERSITY OF WISCONSIN	BIOMEDICAL APPLICATIONS TEAM	C
CARDIOVERSION DEVICE	IMPLANTABLE DEFIBRILLATOR	C
PROGRAMMABLE IMPLANTABLE MEDICATION SYSTEM	DEVELOP ADVANCED PROGRAMMABLE INFUSION PUMP	C
MICROWAVE POLLUTION (MARS)	INSTRUMENT FOR SMOG INVESTIGATION	CA-C
LASER MONITORING, L.A.A.B.	LOS ANGELES AIR BASIN PROJECT	CA-C
ATMOSPHERE POLLUTION (AIM)	ADOPTING MEASUREMENT INSTRUMENTS FOR POLLUTION	CA-C
HAZARDOUS WASTE	LOW ALTITUDE INSTRUMENT ENVIRONMENT FLIGHTS	CA-C
ROBOT APPLICATIONS	POSITIONING INDUSTRIAL ROBOTS USING RANGE SENSING	CA-C
DETONATION STABILITY	DETONATION FLAME ARRESTORS FOR PIPELINES	CA-C
COMPRESSED T.V. TRANSMISSION	SLOW SCAN TV FOR TRAFFIC MONITORING	CA-C

C = contract; CA = cooperative agreement; G = grant.

TITLE	PURPOSE	TYPE
TOXIC GAS ANALYSIS SYSTEM	INSTRUMENT FOR DETECTING TOXIC/ HAZARDOUS MATERIAL	CA-C
FRUIT FLY	STERILIZATION OF FRUIT FLY LARVAE & EGGS	CA-C
MEDICAL IMAGING	MEDICAL IMAGING FOR ANALYZING BURNS	C
BIOENGINEERING	PHASE ZERO STUDIES	C
HYPERTHERMIA	HYPERTHERMIA STUDY OF CANCER DETECTION/ TREATMENT	CA-C
ELECTRIC FIELD MEASUREMENT	MEASURE ELECTRIC FIELDS USERFUL TO WEATHER FORECAST	CA-C
TRACKING AND RESCUE	TRACKING SYSTEM FOR ENDANGERED ANIMALS	CA-C
OXYGEN MONITOR	MONITORING DISSOLVED OXYGEN CONTENT IN WATER	CA-C
X-RAY FLUORESCENCE	PORTABLE SPECTROMETER FOR GEOLOGY APPLICATIONS	CA-C
IN SITU COLIFORM MONITOR	AUTOMATIC IN SITU MONITOR FOR COLIFORM POLLUTION	CA-C
EMISSION MEASURING	MEASURE REFUSE-FIRED POWERPLANT EMISSIONS	CA-C
WASTE WATER DISPOSAL SYSTEM	ALTERNATIVE TO SEPTIC TANK WASTE DISPOSAL	CA-C
GRAVITY ANOMALIES	EXPLORATION TOOL FOR MINERALS AND HYDROCARBONS	CA-C
MASS SPECTROMETER	GAS ANALYSIS FOR AIR POLLUTION	CA-C
FROZEN AGGREGATES	RELEASE SYSTEM FOR FROZEN COAL FROM TRAIN CARS	CA-C
ULTRASONIC STRAIN SENSOR	BOLT STRESS MONITOR	CA-C
MICROWAVE BEAMS	MICROWAVE BEAMS FOR HYPERTHERMIA FEASIBILITY STUDY	CA-C
ADVANCED COMPOSITES	ADVANCED COMPOSITE MATERIALS FOR ORTHOTIC DEVICES	CA-C
SOLAR DOSIMETER	INSTRUMENT FOR MEASURING EXPOSURE TO UV RADIATION	C
RESEARCH TRIANGLE INSTITUTE	BIOMEDICAL APPLICATIONS TEAM	C

TITLE	PURPOSE	TYPE
EXPLOSIVE PIPE JOINING	MINIMIZE COSTS IN NUCLEAR PLANT CONSTRUCTION	CA-C
COMPOSITE STRUCTURE EVALUATION	ACOUSTO-ULTRASONIC INSTRUMENT FOR TESTING	CA-C
NOISE REDUCTION	EQUIPMENT NOISE REDUCTION FOR POULTRY PROCESSING	CA-C
POWERLINE IMPACT	BIRD/POWERLINE IMPACT RATE PREDICTION SYSTEM	CA-C
PERCUTANEOUS CONNECTORS	ION BEAM TEXTURING FOR PERCUTANEOUS CONNECTORS	C/G
TEXTURED FLUOROPOLYMERS	METHOD FOR IMPROVING BONDING SURFACES	G
CIVIL ENGINEERING STRUCTURE	CIVIL ENGINEERING STRUCTURES MODELING TECHNIQUES	CA-C
ORBITAL TUBE FLARING	DEVICE FOR LOW-COST MANUFACTURING PROCESS	CA-C
FIREFIGHTERS COMMUNICATION EQUIPMENT	TRANSCEIVER FOR INDIVIDUAL FIREFIGHTERS	CA
FIREFIGHTING MODULE	IMPROVED FIRE PROTECTION FOR PORTS AND WATERWAYS	CA-C
OCULAR SCREENING	SYSTEM FOR SCREENING VISION PROBLEMS	CA-C
URINARY SPHINCTER	PROSTHETIC URINARY SPHINCTER CONTROL VALVING	CA-C
BIODETECTION	DETECT TRACE AMOUNTS OF HEAVY METAL IN WASTEWATER	CA-C
ANAEROBIC	ANAEROBIC FILTERS FOR WASTEWATER TREATMENT	CA-C
NEW TECHNOLOGY REPORTING (SRI)	TECH BRIEF SCREENING	C
LTS, INC.	TECH BRIEF JOURNAL PUBLICATIONS PREPARATION	C
AEROSPACE RESEARCH APPLICATIONS CENTER	IAC, TECHNICAL DATA SEARCH SERVICES	C
KERR INDUSTRIAL APPLICATIONS CENTER	IAC, TECHNICAL DATA SEARCH SERVICES	C
UNIVERSITY OF PITTSBURGH NIAC	IAC, TECHNICAL DATA SEARCH SERVICES	C
UNIVERSITY OF KANSAS	INDUSTRIAL APPLICATIONS TRANSFER EXPERIMENT	C
ITRAD	INDUSTRIAL TECHNOLOGY RESEARCH & DEVELOPMENT FOUNDATION	C

TITLE	PURPOSE	TYPE
RESEARCH TRIANGLE INSTITUTE	BIOMEDICAL APPLICATIONS TEAM	C
TRIS	TRANSFER RESEARCH STUDIES	C
N.C. SCIENCE & TECH RESEARCH CENTER	IAC, TECHNICAL DATA SEARCH SERVICES	C
NEW ENGLAND RESEARCH APPLICATIONS CENTER	IAC, TECHNICAL DATA SEARCH SERVICES	C
U. OF NEW MEXICO, TECH APPLICATIONS CENTER	IAC, TECHNICAL DATA SEARCH SERVICES	C
U. OF SO. CALIFORNIA NIAC (WESRAC)	IAC, TECHNICAL DATA SEARCH SERVICES	C
NASA/FLA STATE TECH APPLICATIONS CENTER	STAC, TECHNICAL DATA SEARCH SERVICES	C
NASA/UK TECHNOLOGY APPLICATIONS PROGRAM	STAP, TECHNICAL DATA SEARCH SERVICES	C
COSMIC	COMPUTER SOFTWARE MANAGEMENT AND INFORMATION CENTER	C
DUN & BRADSTREET	BUSINESS REPORTS FOR IACS	C
STANFORD UNIVERSITY INTERNSHIP PROGRAM	CODE E POLICY INTERNS FOR ET, EM, & EC	C
PLANNING STUDIES	PLANNING STUDIES	C
STIF	TECHNICAL INQUIRY RESPONSE SUPPORT	C
AIAA FORTUNE 500 FOLLOW-ON	TRANSFER PROJECT TEAMS	C
IIT RESEARCH INSTITUTE, MANUFACTURING TEAM	MANUFACTURING APPLICATIONS TEAM	C
TECHNOLOGY & ECONOMICS, INC. APPLICATION TEAM	STATE, LOCAL & RURAL APPLICATIONS TEAM	C
MINORITY INDUSTRIAL ASSISTANCE	TECHNICAL ASSISTANCE TO MINORITY BUSINESS	C
SRI INTL. TRANSPORTATION APPLICATIONS TEAM	TRANSPORTATION APPLICATIONS TEAM	C
REUSE WATER	MODULAR INTEGRATED WASTEWATER MONITORING CONCEPT	CA-C
REGIONAL WATER QUALITY MONITORING AND DATA SYSTEM	DESIGN SYSTEM, REGIONAL WATER MONITORING	C
RADAR ARCHAEOLOGY	AIRBOURNE RADAR IMAGES OF ARCHEOLOGICAL SITES	C
UNDERSEA TECHNOLOGY	MULTI-TECHNOLOGIES FOR UNDERSEA APPLICATIONS	C
SYSTEM FOR ENVIRONMENTAL PREDICTION	AIRBORNE ACTIVE/PASSIVE MICROWAVE MONITORING	C
BIOMASS	USE OF WATER HYACINTHS FOR BIOMASS PRODUCTION	CA-C

TITLE	PURPOSE	TYPE
AOL BATHYMETRY	COASTAL ZONE MAPPING TECHNIQUE	CA
AGRO-ENVIRONMENTAL MONITORING	AUTOMATED CROP MONITORING & ADVISORY SYSTEM	C
RADAR ENTOMOLOGY	INSECT PEST TRACKING SYSTEM	CA
DATA BUOY SOUNDER	COMMUNICATION FROM REMOTE BUOY	CA-C
EPA WATER QUALITY PACKAGE	AUTOMATIC SAMPLER, ANALYZER	CA-C
ACTIVITY MONITOR, COWS	INDICATE ESTRUS	CA-C
MARKET STUDIES (ECON)	ANALYSIS OF PENDING PROJECTS	C
LNG VAPOR MONITOR	DETECT NATURAL GAS SAFELY	CA-C
ELECTRIC HAZARD PROTECTION/TANK VESSELS	EXPLOSION PREVENTION	CA-C
WEATHER DATA AUTOMATION	REMOTE DATA STATION	CA-C
FIRE MODULE, MARAD	PORTABLE PUMP	CA-C
DIE COATINGS	IMPROVED CASTINGS	C
FRACTURE TOUGH MEASUREMENT	NON-DESTRUCTIVE TEST	G/C
BONDING, ION BEAM	BIO-COMPATIBLE MATERIAL	C/C
LOCOMOTIVE TRUCK DYNAMICS	IMPROVE SAFETY	CA-C
MAGNETIC HEAT PUMP	SPECIALTY COOLING	G/C
CRASH BARRIER/55MPH	HIGHWAY SAFETY	CA-C
CELL SORTER	BIOLOGICAL STUDIES	CA-C
HIP PROSTHESIS	REHABILITATION	CA-C
HIP BIOTELEMETRY	IMPROVED PROSTHETICS	CA-C
HYDROCEPHALUS SHUNT	REHABILITATION	CA-C
ELECTRIC WHEELCHAIR	AID HANDICAPPED	CA-C
JELLYROLL BATTERY	MINE SAFETY, WHEEL CHAIRS	CA-C
DENTAL IMPLANT	NEW MATERIAL	CA-C
CV PROSTHESES	TEXTURING NEW SURFACES, HEART MATERIALS	CA-C
MAGNETOCARDIOLOGY	HEART DIAGNOSIS	CA-C
AUTOCUER	AID FOR THE DEAF	CA-C

TABLE C--NASA TECHNOLOGY UTILIZATION ACTIVITIES AFFECTED BY BUDGET REDUCTIONS FROM CARTER FISCAL YEAR 1982 BUDGET REQUEST TO REAGAN FISCAL YEAR 1982 BUDGET REQUEST

TITLE	PURPOSE
SUB-SURFACE DRAIN MALFUNCTIONS	LOCATION OF SURFACE DRAINAGE FROM AG LANDS
MEMBERSHIP COMPUTER AIDED MANUFACTURING, INTL	CAMI PROMOTES STANDARD METHODS & RESEARCH IN CAM
MOBILITY AID FOR THE BLIND	IMAGE SENSING & SCENE ANALYSIS FOR THE BLIND
GAIT ANALYSIS	COMPARE HANDICAP TO NORMAL WALKING MUSCLE ACTIVITY
PARTITIONAL COOLING	THERMAL BODY CONTROL DEVICES FOR QUADRIPLEGICS
STANFORD UNIVERSITY SCHOOL OF MEDICINE	BIOMEDICAL APPLICATIONS TEAM
LONG BONE RECONSTRUCTION	MEASURE STRAIN TO OPTIMIZE REGROWTH OF LEG BONES
AERODYNAMICS OF GROUND VEHICLES	AERODYNAMIC STUDIES OF TRUCKS
RADIOMETER	INFRARED SPECTRUM FOR IND. & AGRI. APPLICATIONS
SPECTROMETER	INSTRUMENT FOR ELEMENTAL ANALYSIS OF SOIL & WATER
UNIVERSITY OF WISCONSIN	BIOMEDICAL APPLICATIONS TEAM
MICROWAVE POLLUTION (MARS)	INSTRUMENT FOR SMOG INVESTIGATION
LASER MONITORING, L.A.A.B.	LOS ANGELES AIR BASIN PROJECT
ATMOSPHERE POLLUTION (AIM)	ADOPTING MEASUREMENT INSTRUMENTS FOR POLLUTION
HAZARDOUS WASTE	LOW ALTITUDE INSTRUMENT ENVIRONMENT FLIGHTS
ROBOT APPLICATIONS	POSITIONING INDUSTRIAL ROBOTS USING RANGE SENSING
DETONATION STABILITY	DETONATION FLAME ARRESTORS FOR PIPELINES
COMPRESSED T.V. TRANSMISSION	SLOW SCAN TV FOR TRAFFIC MONITORING
TOXIC GAS ANALYSIS SYSTEM	INSTRUMENT FOR DETECTING TOXIC/HAZARDOUS MATERIAL
FRUIT FLY	STERILIZATION OF FRUIT FLY LARVAE & EGGS
BIOENGINEERING	PHASE ZERO STUDIES
ELECTRIC FIELD MEASUREMENT	MEASURE ELECTRIC FIELDS USEFUL TO WEATHER FORECAST
TRACKING AND RESCUE	TRACKING SYSTEM FOR ENDANGERED ANIMALS
OXYGEN MONITOR	MONITORING DISSOLVED OXYGEN CONTENT IN WATER
X-RAY FLUORESCENCE	PORTABLE SPECTROMETER FOR GEOLOGY APPLICATONS
IN SITU COLIFORM MONITOR	AUTOMATIC IN SITU MONITOR FOR COLIFORM POLLUTION
EMISSION MEASURING	MEASURE REFUSE-FIRED POWERPLANT EMISSIONS
WASTE WATER DISPOSAL SYSTEM	ALTERNATIVE TO SEPTIC TANK WASTE DISPOSAL
GRAVITY ANOMALIES	EXPLORATION TOOL FOR MINERALS & HYDROCARBONS
MASS SPECTROMETER	GAS ANALYSIS FOR AIR POLLUTION
FROZEN AGGREGATES	RELEASE SYSTEM FOR FROZEN COAL FROM TRAIN CARS
ADVANCED COMPOSITES	ADVANCED COMPOSITE MATERIALS FOR ORTHOTIC DEVICES
SOLAR DOSIMETER	INSTRUMENT FOR MEASURING EXPOSURE TO UV RADIATION

TITLE	PURPOSE
RESEARCH TRIANGLE INSTITUTE	BIOMEDICAL APPLICATIONS TEAM
EXPLOSIVE PIPE JOINING	MINIMIZE COSTS IN NUCLEAR PLANT CONSTRUCTION
COMPOSITE STRUCTURE EVALUATION	ACOUSTO-ULTRASONIC INSTRUMENT FOR TESTING
NOISE REDUCTION	EQUIPMENT NOISE REDUCTION FOR POULTRY PROCESSING
POWERLINE IMPACT	BIRD/POWERLINE IMPACT RATE PREDICTION SYSTEM
PERCUTANEOUS CONNECTORS	ION BEAM TEXTURING FOR PERCUTANEOUS CONNECTORS
TEXTURED FLUOROPOLYMERS	METHOD FOR IMPROVING BONDING SURFACES
CIVIL ENGINEERING STRUCTURE	CIVIL ENGINEERING STRUCTURES MODELING TECHNIQUES
ORBITAL TUBE FLARING	DEVICE FOR LOW-COST MANUFACTURING PROCESS
FIREFIGHTING MODULE	IMPROVED FIRE PROTECTION FOR PORTS & WATERWAYS
OCULAR SCREENING	SYSTEM FOR SCREENING VISION PROBLEMS
URINARY SPHINCTER	PROSTHETIC URINARY SPHINCTER CONTROL VALVING
BIODETECTION	DETECT TRACE AMOUNTS OF HEAVY METAL IN WASTEWATER
ANAEROBIC	ANAEROBIC FILTERS FOR WASTEWATER TREATMENT
KERR INDUSTRIAL APPLICATIONS CENTER	IAC, TECHNICAL DATA SEARCH SERVICES
UNIVERSITY OF KANSAS	INDUSTRIAL APPLICATIONS TRANSFER EXPERIMENT
ITRAD	INDUSTRIAL TECHNOLOGY RESEARCH & DEVEL. FOUNDATION
TRIS	TRANSFER RESEARCH STUDIES
STANFORD UNIVERSITY INTERNSHIP PROGRAM	CODE E POLICY INTERNS FOR ET, EM, & EC
PLANNING STUDIES	PLANNING STUDIES
IIT RESEARCH INSTITUTE, MANUFACTURING TEAM	MANUFACTURING APPLICATIONS TEAM
TECHNOLOGY + ECONOMICS, INC APPLICATION TEAM	STATE, LOCAL & RURAL APPLICATIONS TEAM
MINORITY INDUSTRIAL ASSISTANCE	TECHNICAL ASSISTANCE TO MINORITY BUSINESS
REUSE WATER	MODULAR INTEGRATED WASTEWATER MONITORING CONCEPT
REGIONAL WATER QUALITY MONITORING AND DATA SYSTEM	DESIGN SYSTEM FOR REGIONAL WATER MONITORING
RADAR ARCHAEOLOGY	AIRBOURNE RADAR IMAGES OF ARCHEOLOGICAL SITES
SYSTEMS FOR UNDERWATER SURVEY & EXPLORATION (SUSE)	DEEP-TOWED SUBMERSIBLE VEHICLE
SEAFLOOR REMOTE SENSING	SEAFLOOR PHOTO ENHANCEMENT
MANGANESE ACOUSTIC SIGNATURE	IDENTIFY MANGANESE NODULES ON SEAFLOOR
HEBBLE	DEVELOP DEEP SEA EXPERIMENT SYSTEM
UNDERSEA TECHNOLOGY	MULTI-TECHNOLOGIES FOR UNDERSEA APPLICATIONS
SYSTEM FOR ENVIRONMENTAL PREDICTION	AIRBORNE ACTIVE/PASSIVE MICROWAVE MONITORING
BIOMASS	USE OF WATER HYACINTHS FOR BIOMASS PRODUCTION
AOL BATHYMETRY	COASTAL ZONE MAPPING TECHNIQUE
AGRO-ENVIRONMENTAL MONITORING	AUTOMATED CROP MONITORING & ADVISORY SYSTEM
RADAR ENTOMOLOGY	INSECT PEST TRACKING SYSTEM

and will not represent a program of the required scope or pace to provide fuel flexible technology for the commercial and general aviation industries.

MATERIALS PROCESSING

Question: How much has NASA spent to date on materials processing?

Answer: Total budget authority for the materials processing in space program including supporting research and payload development is $72.3 million through FY 1981.

Question: What is the status of the program?

Answer: The science base of the materials processing in space program is evolving, with continuing ground-based research being performed by university, non-profit laboratory, and Government scientists. Several major hardware programs are at midstream with planned completion dates starting in 1982 and extending, for some items, to 1984 or beyond. The first Shuttle flight experiments are anticipated to take place on the next Shuttle orbital test flight. Most experimental opportunities now planned will begin during the 1983-85 time frame utilizing mid-deck and Shuttle/Spacelab flight opportunities.

Question: Is there any involvement on the part of private industry?

Answer: Yes. Entry mechanisms for private industry consist of Technical Exchange Agreements (TEA), Industrial Guest Investigator (IGI) Programs, and Joint Endeavor Agreements (JEA). A TEA with John Deere Corporation is nearing completion. TRW is currently involved in an IGI. A JEA has been signed with the McDonnell-Douglas Astronautics Corporations for the separation of biological components in low-gravity. Several additional JEA proposals have been received and are currently being evaluated.

Question: Do you see any near term benefits or applications from this program?

Answer: The increased awareness of the role of gravity in materials processing can be expected to impact many terrestrial applications. Commercial product potential will be tested in the case of the McDonnell-Douglas Corporation Joint Endeavor in the near future. Science experiments to be carried out on Shuttle flights can help define new benefits and applications.

MISCELLANEOUS

Question: How much did NASA spend in FY 1980 and FY 1981 on publications? How much is budgeted for FY 1982?

Answer: The following funds were spent by NASA for educational publications for the fiscal years indicated. The FY 1982 amount is a budgeted figure.

FY 80 Actual	FY 81 Plan	FY 82 Budget
$662,622	$471,000	$535,000

Question: How are decisions made regarding what should be published?

Answer: Decisions regarding what should be published are made by individual publication as part of the budget process. Publications are proposed by subject matter even earlier in the justification phase.

Question: What kind of distribution system do you have? Are mailings made automatically? Are there any controls on such mailings?

Answer: A proposal must identify the target audience, the number of copies to be produced, and the method of distribution (mail, pick-up, etc.) When the completed publication is received from the Government Printing Office, it is distributed according to the approved plan, via mail to organizations and individuals or bulk delivery to pick-up points such as visitor information centers. If an addition to the distribution is proposed after the publications is approved, it must be accompanied by an equivalent reduction in the same or another publication. No mailing is automatic. Control is imposed on all publications starting from the time they are proposed and maintained until they are completely distributed.

Question: How much did you spend on photographs in FY 1980 and FY 1981?

Answer:	FY 80	FY 81
	$445,910	$548,000 (annual plan)

Question: What is the total cost of your program to commission artists to portray the Shuttle launch? How specifically is this money being spent?

Answer: The total cost of the program to commission artists to portray the Shuttle launch was $10,500. The money was spent to buy the pictures of seven artists who work in different media or styles to capture the launch and its setting. Each artist provided for his own transportation, lodging, etc., from the commission. The completed pictures became the property of the U.S. Government in the care of the Smithsonian Institution, National Air and Space Museum.

Question: How much was spent on the student competition related to the Shuttle Launch?

Answer: No student experiments were flown on the first Shuttle flight. The ten national winners of the Shuttle Student Involvement Project were not announced until May 8, 1981, about four weeks after the first flight.

The Academic Affairs Division of NASA is now seeking commitments from U.S. industrial firms and other groups to sponsor the student winners and assist them in transforming winning proposal into experiments. The sponsors will provide necessary funding for hardware development and other costs related to the pre- and post-flight analysis and reporting. Once the experiment is ready to be flown and assigned to a specific Shuttle flight, the sponsor may, if they so desire, arrange to fly the student to observe launch and/or landing activities.

However, if a sponsor cannot be found or if the student proposal closely parallels a profession experiment already planned for a Space Shuttle mission, NASA may arrange for the student to work with a Principal Investigator as part of an existing research team. In this case NASA would pay for the experiment development and related travel costs. The exact amount of these costs are dependent upon the nature of the experiment, the distance the student lives from the launch site, and the number of students not assisted by industrial firms; therefore, we do not have an estimate of the funding requirement at the present time.

SUBCOMMITTEE RECESS

Senator GARN. The committee will stand in recess until May 20, at 9:30 a.m., when we will hear testimony from the Department of Housing and Urban Development.

The committee is recessed.

[Whereupon, at 11:40 a.m. Tuesday, May 12, the subcommittee was recessed, to reconvene at 9:30 a.m. Wednesday, May 20.]

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT-INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1982

WEDNESDAY, MAY 20, 1981

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 9:30 a.m., in room 1224, Everett McKinley Dirksen Senate Office Building, Hon. Jake Garn (chairman) presiding.

Present: Senators Garn, Specter, Huddleston, and Sasser.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

STATEMENT OF SAMUEL R. PIERCE, JR., SECRETARY

ACCOMPANIED BY:

- E. S. SAVAS, ASSISTANT SECRETARY FOR POLICY DEVELOPMENT AND RESEARCH
- PHILIP D. WINN, ASSISTANT SECRETARY FOR HOUSING—FEDERAL HOUSING COMMISSIONER
- S. LEIGH CURRY, DEPUTY GENERAL COUNSEL (OPERATIONS)
- R. FREDERICK TAYLOR, EXECUTIVE VICE PRESIDENT, GOVERNMENT NATIONAL MORTGAGE ASSOCIATION
- DONALD DODGE, ACTING GENERAL DEPUTY ASSISTANT SECRETARY FOR COMMUNITY PLANNING AND DEVELOPMENT
- PETER KAPLAN, DEPUTY ASSISTANT SECRETARY FOR OPERATIONS AND MANAGEMENT, OFFICE OF FAIR HOUSING AND EQUAL OPPORTUNITY
- WILLIAM O. ANDERSON, GENERAL DEPUTY ASSISTANT SECRETARY FOR NEIGHBORHOODS, VOLUNTARY ASSOCIATIONS, AND CONSUMER PROTECTION
- JOHN CLINTON, DIRECTOR, OFFICE OF PROGRAM POLICY AND MANAGEMENT, NEW COMMUNITY DEVELOPMENT CORPORATION
- ALBERT J. KLIMAN, ACTING DEPUTY ASSISTANT SECRETARY FOR ADMINISTRATION
- PAUL A. ADAMS, DEPUTY INSPECTOR GENERAL
- HERBERT G. PERSIL, ACTING DEPARTMENTAL BUDGET OFFICER

SUBCOMMITTEE PROCEDURE

Senator GARN. The subcommittee will come to order. I would like to welcome you, Mr. Secretary, to your first appearance before this committee. You and I have had the opportunity to work closely on the Department's authorization legislation in the Senate Banking Committee and I certainly expect to continue that good working relationship with this committee as it makes its budget recommendations and performs its oversight functions. You can be sure that I intend to do all I can to assure that those programs that have been authorized in the Senate Banking Committee are given a fair chance to succeed here in the Appropriations Committee. You can be equally sure that I will work with you in identifying and eliminating those procedures, programs, and policies that impede the efficient and effective operation of the Department or its programs.

Several other members of the subcommittee will be attending the hearing this morning. In order to give everyone a chance to question you, I will suggest that we rotate the questioning, allowing 10 minutes per member.

Mr. Secretary, I see that you have a 33-page statement. If you would present a summary statement at this time, we will be happy to include your entire statement in the record.

GENERAL STATEMENT

Secretary PIERCE. Mr. Chairman, I should like to comment on the highlights of my statement and then submit the balance of the statement for the record.

Mr. Chairman and members of the committee, I am pleased to appear before this committee to discuss HUD's 1982 budget proposals which mark the efforts of this administration to establish, in cooperation with the Congress, the future direction of Federal support for subsidized housing and community development.

The Department's budget proposals are being advanced only after the most careful review of the objectives and funding levels of each of the Department's programs. In conducting this review, we have been keenly aware of the need to reduce Federal spending as an essential part of the President's program for economic recovery. At the same time, however, we have been equally mindful that the Department of Housing and Urban Development must continue to play a lead role in the urban affairs of the Nation.

As we do move to the future, allow me to outline briefly for the committee the essential steps which must be taken to assist State and local governments, and the housing industry, to meet the economic, community development, and shelter needs of the American people.

First, and of paramount importance, is the absolute necessity for the Federal Government to put its economic house in order if inflationary pressures are to be slowed and interest rates brought down. No single, short-term action can do more to encourage the ailing housing industry to increase its production of new housing—at an affordable price—than a lowering of the cost to the homebuyer of borrowing money.

A high interest payment results, as we are all painfully aware, in many people being unable to qualify for the purchase of a home. This is an unacceptable situation which must be corrected. Solving the problem is, of course, tied directly to the goal of economic recovery. Thus, let me once again urge this committee and the Congress to adopt the economic recovery program as expeditiously as possible.

In addition to the challenge of combating inflation and reducing interest rates, other immediate steps must also be taken to lower the cost of providing shelter, particularly rental housing for lower income families as well as the elderly and handicapped. These steps include, for the section 8 program, greater reliance on the existing housing stock with less emphasis on new construction; and, for both the section 8 and public housing programs, increases in the percentage of income tenants will be required to apply toward rents.

Currently, as the committee knows, tenants may not pay more than 25 percent of income toward rent with the Federal subsidy making up the difference. We believe it is justifiable for subsidized tenants to pick up a greater share of their own rent burden and are proposing legislation to raise the 25 percent cap to 30 percent of income, to be phased in by 1986.

By way of background, let me say again, that this Department will be participating with a soon-to-be-announced Presidential commission in a comprehensive review of Federal housing programs and policies. This study, to be funded with HUD's research appropriation, will form the basis of future housing policy recommendations to the President and the Congress. Obviously, the long-term implications of these recommendations are potentially of great significance and will, I am sure, be awaited with interest by this committee.

Now, Mr. Chairman, I would like to highlight specific elements in the 1982 budget request.

HIGHLIGHTS OF 1982 BUDGET REQUEST

For 1982 we are requesting total budget authority of $29 billion, which is $3.8 billion less than the 1981 estimate. The figure for 1981 assumes enactment of the rescission and supplemental requests which the Congress is now considering. Within the $29 billion total is a request of $19.8 billion for section 8 and public housing to support 175,000 subsidized units in 1982 and $4.2 billion for community development grants, including $500 million for urban development action grants.

Outlays are estimated at $14.3 billion, some $800 million more than the 1981 estimate of $13.5 billion. These higher outlays are the result, primarily, of additional subsidized housing units coming under payment, increasing operating subsidies for public housing agencies, and disbursements of UDAG obligations.

Employment levels for the Department are projected to decline in each of fiscal years 1981—14,865 permanent positions—and 1982—14,607 positions—from the 1980 actual number of 15,613 positions. These decreases are the direct result of the decisions to terminate several programs and a proposed reorganization of functions.

ASSISTED HOUSING

As I have indicated, contract and budget authority is requested to assist an estimated 175,000 subsidized housing units in 1982, consisting of 24,000 units of public housing and 151,000 units of section 8 housing. The latter figure includes 17,200 units which will be constructed with financing under the section 202 direct loan program.

Subsidized housing starts in 1982 are estimated to total nearly 163,000 units, nearly all of which are section 8 and public housing units. Also, completions are estimated at nearly 292,000 units, including 220,000 section 8 units and 45,000 public housing units.

In addition to assisting the construction of public housing units, the Department is requesting a higher level of operating subsidy support for the existing public housing inventory. The 1982 request is $1.2 billion, which is a substantial increase over the 1981 level of $971 million. While this estimate is based upon the performance funding system formula, let me state, for the record, that it is the intention of the Department to make a serious effort to get a handle on the spiraling costs of operating public housing; but, we must all recognize that the main culprit in driving costs up is double-digit inflation. Doing something about this overall problem will go a long way toward solving many of our financial problems, including this one.

GNMA TANDEM

A new policy initiative announced in the 1982 budget is the proposal to end the GNMA tandem programs once the existing pipeline of projects has been financed, at a cost of $3.6 billion in 1982. We disagree with this additional form of subsidy, particularly for the targeted tandem program. Subsidizing multifamily housing for the middle income is not, we believe, an appropriate use of limited budgetary resources.

I should like to particularly emphasize at this point that although the administration requested $3.6 billion, it now appears that we may receive only $2 billion in commitment authority to fund the GNMA tandem program in fiscal year 1982. If this occurs, it will be impossible for us to fund all of the projects now in the pipeline. Since many of these projects are not economically viable at going market interest rates, they will not be able to proceed to construction. Moreover, funding at less than the $3.6 billion level will also mean that the Department will be required to develop an allocation system to determine which of the eligible projects will actually be funded. No matter how such a system is structured, developers of projects who were encouraged to participate in the FHA programs on the assumption that tandem financing would be available, will lose part or all of their initial investments.

COMMUNITY DEVELOPMENT BLOCK GRANTS

For the community development block grant program, we are requesting budget authority totaling $4.2 billion, including $500 million for urban development action grants. Also, several significant legislative changes have been proposed to simplify the administration of the entitlement program and to create a block grant program for the States to administer to the smaller units of government. This latter proposal is expected to be fully operational in 1983.

OTHER PROGRAMS

Finally, other program items to highlight are the proposals to fund the housing counseling assistance program at a $4 million level in both 1981 and 1982 to support homeowner delinquency and default counseling; and $5.7 million for the fair housing assistance program to reimburse State and local agencies for handling housing discrimination complaints and for payments to community housing resource boards in support of the title VIII voluntary compliance program.

PREPARED STATEMENT AND BIOGRAPHICAL SKETCHES

Well, Mr. Chairman, those are my comments and I should now like to submit the balance of my statement for the record and I am prepared to try to answer any questions that you or any members of the committee may have.

Senator GARN. Thank you, Mr. Secretary. The entire statement will be included in the record.

[The statement and biographies follow:]

STATEMENT OF SECRETARY SAMUEL R. PIERCE, JR.

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

I AM PLEASED TO APPEAR BEFORE THIS COMMITTEE TO DISCUSS HUD'S 1982 BUDGET PROPOSALS WHICH MARK THE EFFORTS OF THIS ADMINISTRATION TO ESTABLISH--IN COOPERATION WITH THE CONGRESS--THE FUTURE DIRECTION OF FEDERAL SUPPORT FOR SUBSIDIZED HOUSING AND COMMUNITY DEVELOPMENT.

THE DEPARTMENT'S BUDGET PROPOSALS ARE BEING ADVANCED ONLY AFTER THE MOST CAREFUL REVIEW OF THE OBJECTIVES AND FUNDING LEVELS OF EACH OF THE DEPARTMENT'S PROGRAMS. IN CONDUCTING THIS REVIEW, WE HAVE BEEN KEENLY AWARE OF THE NEED TO REDUCE FEDERAL SPENDING AS AN ESSENTIAL PART OF THE PRESIDENT'S PROGRAM FOR ECONOMIC RECOVERY. AT THE SAME TIME, HOWEVER, WE HAVE BEEN EQUALLY MINDFUL THAT THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT MUST CONTINUE TO PLAY A LEAD ROLE IN THE URBAN AFFAIRS OF THE NATION.

AS WE DO MOVE TO THE FUTURE, ALLOW ME TO OUTLINE BRIEFLY FOR THE COMMITTEE THE ESSENTIAL STEPS WHICH MUST BE TAKEN TO ASSIST STATE AND LOCAL GOVERNMENTS, AND THE HOUSING INDUSTRY, TO MEET THE ECONOMIC, COMMUNITY DEVELOPMENT, AND SHELTER NEEDS OF THE AMERICAN PEOPLE.

FIRST, AND OF PARAMOUNT IMPORTANCE, IS THE ABSOLUTE NECESSITY FOR THE FEDERAL GOVERNMENT TO PUT ITS ECONOMIC HOUSE IN ORDER IF INFLATIONARY PRESSURES ARE TO BE SLOWED AND INTEREST RATES BROUGHT DOWN. NO SINGLE, SHORT-TERM ACTION CAN DO MORE TO ENCOURAGE THE AILING HOUSING INDUSTRY TO INCREASE ITS PRODUCTION OF NEW HOUSING--AT AN AFFORDABLE PRICE--THAN A LOWERING OF THE COST TO THE HOMEBUYER OF BORROWING MONEY.

A HIGH INTEREST PAYMENT RESULTS, AS WE ARE ALL PAINFULLY AWARE, IN MANY PEOPLE BEING UNABLE TO "QUALIFY" FOR THE PURCHASE OF A HOME. THIS IS AN UNACCEPTABLE SITUATION WHICH MUST BE CORRECTED. SOLVING THE PROBLEM IS, OF COURSE, TIED DIRECTLY TO THE GOAL OF ECONOMIC RECOVERY. THUS, LET ME ONCE AGAIN URGE THIS COMMITTEE AND THE CONGRESS TO ADOPT THE ECONOMIC RECOVERY PROGRAM AS EXPEDITIOUSLY AS POSSIBLE.

IN ADDITION TO THE CHALLENGE OF COMBATING INFLATION AND REDUCING INTEREST RATES, OTHER IMMEDIATE STEPS MUST ALSO BE TAKEN TO LOWER THE COST OF PROVIDING SHELTER, PARTICULARLY RENTAL HOUSING FOR LOWER-INCOME FAMILIES AS WELL AS THE ELDERLY AND HANDICAPPED. THESE STEPS INCLUDE, FOR THE SECTION 8 PROGRAM, GREATER RELIANCE ON THE EXISTING HOUSING STOCK WITH LESS EMPHASIS ON NEW CONSTRUCTION; AND, FOR BOTH THE SECTION 8 AND PUBLIC HOUSING PROGRAMS, INCREASES IN THE PERCENTAGE OF INCOME TENANTS WILL BE REQUIRED TO APPLY TOWARD RENTS.

CURRENTLY, AS THE COMMITTEE KNOWS, TENANTS MAY NOT PAY MORE THAN 25 PERCENT OF INCOME TOWARD RENT WITH THE FEDERAL SUBSIDY MAKING UP THE DIFFERENCE. WE BELIEVE IT IS JUSTIFIABLE FOR SUBSIDIZED TENANTS TO PICK UP A GREATER SHARE OF THEIR OWN RENT BURDEN AND ARE PROPOSING LEGISLATION TO RAISE THE 25 PERCENT CAP TO 30 PERCENT OF INCOME, TO BE PHASED IN BY 1986.

BY WAY OF BACKGROUND, LET ME SAY AGAIN, THAT THIS DEPARTMENT IS PARTICIPATING WITH A SOON TO BE ANNOUNCED PRESIDENTIAL COMMISSION IN A COMPREHENSIVE REVIEW OF FEDERAL HOUSING PROGRAMS AND POLICIES. THIS STUDY, TO BE FUNDED WITH HUD'S RESEARCH APPROPRIATION, WILL FORM THE BASIS OF FUTURE HOUSING POLICY RECOMMENDATIONS TO THE PRESIDENT AND THE CONGRESS. OBVIOUSLY, THE LONG-TERM IMPLICATIONS OF THESE RECOMMENDATIONS ARE POTENTIALLY OF GREAT SIGNIFICANCE AND WILL, I AM SURE, BE AWAITED WITH INTEREST BY THIS COMMITTEE.

Now, Mr. Chairman, I would like to highlight specific elements in the 1982 Budget request.

HIGHLIGHTS OF 1982 BUDGET REQUEST

For 1982, we are requesting total budget authority of $29 billion, which is $3.8 billion less than the 1981 estimate. The figure for 1981 assumes enactment of the rescission and supplemental requests which the Congress is now considering. Within the $29 billion total is a request of $19.8 billion for Section 8 and Public Housing to support 175,000 subsidized units in 1982 and $4.2 billion for Community Development Grants, including $500 million for Urban Development Action Grants.

Outlays are estimated at $14.3 billion, some $800 million more than the 1981 estimate of $13.5 billion. These higher outlays are the result, primarily, of additional subsidized housing units coming under payment, increasing operating subsidies for Public Housing Agencies and disbursements of UDAG obligations.

Employment levels for the Department are projected to decline in each of fiscal years 1981 (14,865 permanent positions) and 1982 (14,607 positions) from the 1980 actual number of 15,613 positions. These decreases are the direct result of the decisions to terminate several programs and a proposed reorganization of functions.

As I have indicated, contract and budget authority is requested to assist an estimated 175,000 subsidized housing units in 1982, consisting of 24,000 units of Public Housing and 151,000 units of Section 8 Housing. The latter figure includes 17,200 units which will be constructed with financing under the Section 202 direct loan program.

Subsidized housing starts in 1982 are estimated to total nearly 163,000 units, nearly all of which are Section 8 and Public Housing units. Also, completions are estimated at nearly 292,000 units, including 220,000 Section 8 units and 45,000 Public Housing units.

In addition to assisting the construction of Public Housing units, the Department is requesting a higher level of operating subsidy support for the existing public housing inventory. The 1982 request is $1.2 billion, which is a substantial increase over the 1981 level of $971 million. While this estimate is based upon the Performance Funding System formula, let me state, for the record, that it is the intention of the Department to make a serious effort to get a handle on the spiraling costs of operating public housing; but, we must all recognize that the main culprit in driving costs up is double-digit inflation. Doing something about this overall problem will go a long way toward solving many of our financial problems, including this one.

A new policy initiative announced in the 1982 Budget is the proposal to end the GNMA Tandem programs once the existing pipeline of projects has been financed, at a cost of $3.6 billion in 1982. We disagree with this additional form of subsidy, particularly for the "targeted tandem" program. Subsidizing multifamily housing for the middle-income is not, we believe, an appropriate use of limited budgetary resources.

For the Community Development Block Grant program, we are requesting budget authority totaling $4.2 billion, including $500 million for Urban Development Action Grants. Also, several significant legislative changes have been proposed to simplify the administration of the entitlement program and to create a block grant program for the states to administer to the smaller units of government. This latter proposal is expected to be fully operational in 1983.

FINALLY, OTHER PROGRAM ITEMS TO HIGHLIGHT ARE THE PROPOSALS TO FUND THE HOUSING COUNSELING ASSISTANCE PROGRAM AT A $4 MILLION LEVEL IN BOTH 1981 AND 1982 TO SUPPORT HOMEOWNER DELINQUENCY AND DEFAULT COUNSELING; AND $5.7 MILLION FOR THE FAIR HOUSING ASSISTANCE PROGRAM TO REIMBURSE STATE AND LOCAL AGENCIES FOR HANDLING HOUSING DISCRIMINATION COMPLAINTS AND FOR PAYMENTS TO COMMUNITY HOUSING RESOURCE BOARDS IN SUPPORT OF THE TITLE VIII VOLUNTARY COMPLIANCE PROGRAM.

ASSISTED HOUSING PROGRAMS

AT THIS POINT, MR. CHAIRMAN, I WOULD LIKE TO PRESENT MORE DETAIL ON THE 1982 REQUESTS FOR THE SUBSIDIZED HOUSING PROGRAMS.

FOR 1981, THE DEPARTMENT IS PROPOSING A PROGRAM OF 210,000 UNITS FOR SECTION 8 AND PUBLIC HOUSING. AT THIS LEVEL OF ACTIVITY, IT WAS POSSIBLE FOR US TO PROPOSE A RESCISSION OF $5.1 BILLION OF BUDGET AUTHORITY FOR 1981. THE $19.7 BILLION IN NEW BUDGET AUTHORITY REQUESTED FOR SUBSIDIZED HOUSING PROGRAMS FOR 1982 REPRESENTS APPROXIMATELY 68 PERCENT OF A TOTAL DEPARTMENT REQUEST OF $29 BILLION. THIS REPRESENTS THE LARGEST SINGLE SHARE OF THE DEPARTMENT'S 1982 BUDGET PROPOSAL, IN TERMS OF BUDGET AUTHORITY.

THE REVISED 1982 BUDGET PROPOSES APPROVAL OF 175,000 SECTION 8 AND PUBLIC HOUSING UNITS--A REDUCTION OF APPROXIMATELY 15 PERCENT BELOW THE LEVEL ACTUALLY APPROVED IN 1980. MORE IMPORTANTLY, THE PROPOSED LEVEL REPRESENTS A SIGNIFICANT SHIFT IN EMPHASIS TOWARD THE MAXIMUM USE OF EXISTING HOUSING RESOURCES AND A CORRESPONDING DECREASE IN THE USE OF NEW CONSTRUCTION AND SUBSTANTIAL REHABILITATION. THE PROPOSED MIX OF HOUSING UNITS IN 1982 WILL BE 55 PERCENT EXISTING AND 45 PERCENT NEW AND SUBSTANTIALLY REHABILITATED. THE SHIFT IN EMPHASIS TOWARD EXISTING HOUSING REFLECTS BOTH THE MUCH HIGHER COST AND THE LONG LEADTIME REQUIRED TO COMPLETE NEW CONSTRUCTION PROJECTS. WITH A LIMITED AMOUNT OF RESOURCES, WE CAN HELP MORE NEEDY FAMILIES AND ASSIST THEM MORE PROMPTLY THROUGH THE USE OF THE EXISTING AND MODERATE REHABILITATION PROGRAMS.

WITHIN THE 175,000 UNIT TOTAL, WE ARE PROJECTING THE RESERVATION OF 24,000 UNITS OF PUBLIC HOUSING AND 151,000 UNITS OF SECTION 8. NO ADDITIONAL ASSISTANCE IS PROPOSED FOR INDIAN HOUSING PROJECTS IN 1982 BEYOND THAT ALREADY RESERVED. THE CURRENT PROGRAM DOES NOT APPEAR TO BE WORKING PROPERLY, AS IS EVIDENCED BY THE HIGH BACKLOG OF UNFINISHED PROJECTS AND HIGH PROGRAM COSTS. WE CANNOT CONTINUE FUNDING UNDER THE CURRENT FRAMEWORK. THE DEPARTMENT WILL EXAMINE ALTERNATIVE WAYS OF ASSISTING INDIAN HOUSING EFFORTS IN THE FUTURE AS PART OF ITS EVALUATION OF HUD PROGRAMS.

THE DEPARTMENT PLANS TO LOOK INTO ALL OF OUR HOUSING PROGRAMS AS PART OF A MAJOR RE-EXAMINATION OF THE CURRENT SUBSIDY STRUCTURE. WHILE I CANNOT PREDICT WHAT THE OUTCOME OF THIS STUDY WILL BE, I AM CONVINCED THAT THERE MUST BE LESS COSTLY WAYS OF PROVIDING HOUSING SUBSIDIES TO THE NEEDY. WE INTEND TO EXAMINE THE MOST EFFICIENT WAYS OF MAKING ASSISTANCE AVAILABLE WHILE REDUCING THE AMOUNT OF NEEDLESS RED-TAPE AND FEDERAL INVOLVEMENT--AND, THEREBY, ALSO REDUCING THE COST OF OUR HOUSING SUBSIDY PROGRAMS.

HOWEVER, WHATEVER THE FUTURE MAY BRING, THE REVISED 1982 BUDGET IS BASED ON OUR USE OF CURRENT HOUSING PROGRAMS. THE 1982 REQUEST REPRESENTS A BALANCE BETWEEN OUR STRONG DESIRE TO ASSIST THOSE WHO ARE ILL-HOUSED AND THE EQUALLY URGENT NEED TO IMPROVE OUR WAY OF DOING BUSINESS. WE SIMPLY CANNOT AFFORD TO CONTINUE TO ADD A HIGH LEVEL OF ADDITIONAL COMMITMENTS EACH YEAR TO THE ALREADY MASSIVE OBLIGATIONS NOW ON THE BOOKS UNDER A "BUSINESS AS USUAL" APPROACH.

WHILE I TRULY BELIEVE THAT THE AMOUNTS WE ARE REQUESTING IN 1982 ARE NECESSARY AND REASONABLE UNDER THE CURRENT PROGRAM STRUCTURE, I AM

COMMITTED TO IMPROVING AND CHANGING THIS STRUCTURE AS QUICKLY AS POSSIBLE. I HOPE THAT BY THE TIME THE 1983 BUDGET IS PRESENTED WE WILL BE ABLE TO SHOW THE RESULTS OF OUR EFFORTS IN TERMS OF AN IMPROVED AND MORE EFFICIENT DELIVERY MECHANISM.

PUBLIC HOUSING COMPREHENSIVE IMPROVEMENT ASSISTANCE PROGRAM

THE 1982 BUDGET ALSO REFLECTS A LOWERED RATE OF MODERNIZATION ACTIVITIES WITH $1.7 BILLION AND $1.5 BILLION OF BUDGET AUTHORITY BEING PROPOSED FOR 1981 AND 1982, RESPECTIVELY, FOR THE MODERNIZATION OF PUBLIC HOUSING UNDER THE COMPREHENSIVE IMPROVEMENT ASSISTANCE PROGRAM AUTHORIZED UNDER SECTION 14 OF THE UNITED STATES HOUSING ACT OF 1937, AS AMENDED.

UNDER THIS PROCEDURE, WHICH IS BEING IMPLEMENTED IN 1981, A PUBLIC HOUSING AGENCY (PHA) APPLYING FOR MODERNIZATION FUNDING WILL PREPARE AND SUBMIT A COMPREHENSIVE ASSESSMENT OF THE PHYSICAL AND MANAGEMENT IMPROVEMENTS REQUIRED, IDENTIFY NORMAL REPLACEMENT OF EQUIPMENT AND STRUCTURAL ELEMENTS, AND SUBMIT A PLAN FOR MAKING NEEDED IMPROVEMENTS DURING THE NEXT FIVE YEARS.

PUBLIC HOUSING FINANCING

THE 1982 BUDGET INCLUDES $1.1 BILLION OF BUDGET AUTHORITY TO CONTINUE THE SALE OF PUBLIC HOUSING PERMANENT FINANCING INSTRUMENTS TO THE FEDERAL FINANCING BANK (FFB). FROM 1974 TO 1980, THE PUBLIC HOUSING PROGRAM WAS FINANCED EXCLUSIVELY THROUGH THE USE OF SHORT-TERM TAX-EXEMPT NOTES SOLD IN THE PRIVATE MARKET. PERMANENT FINANCING THROUGH THE FFB WAS INITIATED IN 1980.

THE BUDGET ALSO REFLECTS A PROPOSED SUPPLEMENTAL APPROPRIATION REQUEST TO TRANSFER $1.06 BILLION OF UNOBLIGATED BUDGET AUTHORITY IN

1981 FROM THE ANNUAL CONTRIBUTIONS FOR ASSISTED HOUSING ACCOUNT TO THE LOW RENT PUBLIC HOUSING LOAN FUND TO SUPPORT THE SALE OF FINANCING INSTRUMENTS TO THE FFB.

THE COMBINED 1981 AND 1982 FINANCING WILL SUPPORT SUFFICIENT SALES TO THE FFB TO KEEP OUTSTANDING TEMPORARY LOAN APPROVALS UNDER THE $20 BILLION TOTAL REQUIRED TO KEEP US WITHIN THE $1.5 BILLION LIMITATION ON BORROWING AUTHORITY.

PUBLIC HOUSING OPERATING SUBSIDIES

THE BUDGET PROPOSES AN APPROPRIATION OF $1.2 BILLION FOR PAYMENTS FOR OPERATION OF LOW-INCOME HOUSING PROJECTS (PUBLIC HOUSING OPERATING SUBSIDIES) IN 1982. THE AMOUNT OF OPERATING SUBSIDIES WHICH ARE MADE AVAILABLE TO PHAS TO ASSIST IN FINANCING THE OPERATION OF PHA-OWNED PUBLIC HOUSING DWELLINGS IS DETERMINED PRIMARILY BY USING A PERFORMANCE FUNDING SYSTEM (PFS) FORMULA. THE 1982 ESTIMATE INCLUDES A RETROSPECTIVE INFLATION ADJUSTMENT TO THE PFS FORMULA CALCULATION. THIS ADJUSTMENT REPRESENTS $81.9 MILLION OF THE TOTAL 1982 ESTIMATE AND IS AN ATTEMPT TO OFFSET THE UNDER-ESTIMATING OF INFLATION IN PAST YEARS UNDER THE PFS FORMULA.

THE PROPOSED 1982 APPROPRIATION ALSO REFLECTS THE FIRST YEAR'S IMPACT OF GRADUALLY INCREASING THE MAXIMUM ALLOWABLE RENT FROM THE CURRENT LEVEL OF 25 PERCENT OF INCOME TO A REVISED LEVEL OF 30 PERCENT OF INCOME BY 1986.

HOUSING FOR THE ELDERLY OR HANDICAPPED

THE BUDGET PROPOSES NET LOAN RESERVATIONS OF $830.8 MILLION FOR THE SECTION 202 PROGRAM IN FY 1982, INCLUDING NOT LESS THAN $50 MILLION TO BE USED TO PROVIDE HOUSING SPECIFICALLY FOR THE NON-ELDERLY HANDICAPPED. THIS NET LOAN LEVEL, WHICH IS IDENTICAL TO THE FY 1981 LEVEL, IS EXPECTED

TO PRODUCE 17,200 UNITS, INCLUDING AT LEAST 1,035 UNITS FOR THE HANDICAPPED. FEDERAL CREDIT CONTROLS ARE APPLICABLE TO THIS PROGRAM; THEREFORE, A LIMITATION ON "GROSS" LOAN COMMITMENTS HAS BEEN PROPOSED AMOUNTING TO $850.8 MILLION IN 1982. THIS TOTAL INCLUDES UP TO $20 MILLION OF COMMITMENTS FUNDED OUT OF RECAPTURED AUTHORITY.

NONPROFIT SPONSOR ASSISTANCE

NO APPROPRIATION IS BEING SOUGHT FOR NONPROFIT SPONSOR ASSISTANCE SINCE LOAN AMOUNTS CAN BE FUNDED FROM REPAYMENTS OF PRIOR YEAR LOANS. THESE FUNDS WILL ENABLE THE DEPARTMENT TO CONTINUE TO CARRY OUT A PROGRAM TO SUPPORT SPONSORS OF SECTION 202 PROJECTS. A FEDERAL CREDIT CONTROL LIMITATION PROPOSED FOR 1982 WILL LIMIT LOANS TO A GROSS TOTAL OF $2.6 MILLION.

RENT SUPPLEMENT PROGRAM

THE 1982 PROGRAM INCLUDES THE ANTICIPATED RECAPTURE OF AN ESTIMATED $44 MILLION IN CONTRACT AUTHORITY AS A RESULT OF THE EXPECTED CONVERSION OF UP TO 20,000 RENT SUPPLEMENT UNITS TO SECTION 8 ASSISTANCE. THIS PROPOSED CONVERSION DEPENDS ON ACTION BY THE CONGRESS IN REPEALING THE MANDATORY AMENDMENT REQUIREMENT INCLUDED IN THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1980. OF THE TOTAL TO BE RECAPTURED, $30.5 MILLION HAS BEEN PROPOSED FOR RESCISSION. THE REMAINING $13.5 MILLION WILL BE UTILIZED TO PROVIDE NECESSARY RENT INCREASES FOR THE RENT SUPPLEMENT UNITS REMAINING UNDER CONTRACT.

SECTION 235 HOMEOWNERSHIP ASSISTANCE

NO NEW AUTHORITY IS REQUESTED IN 1982 FOR THE SECTION 235 HOMEOWNERSHIP ASSISTANCE PROGRAM. FOR FY 1981, THE BUDGET ASSUMES THE USE OF $39.1 MILLION OF PREVIOUSLY OBLIGATED SECTION 235

CONTRACT AUTHORITY AND THE $70 MILLION OF NEW CONTRACT AUTHORITY APPROPRIATED FOR FY 1981. THIS WILL PERMIT THE RESERVATION OF 25,600 NEWLY CONSTRUCTED OR SUBSTANTIALLY REHABILITATED UNITS UNDER THE REVISED SECTION 235 PROGRAM.

HOUSING PAYMENTS

FOR 1982, THE BUDGET PROPOSES AN APPROPRIATION OF $8.8 BILLION FOR THE HOUSING PAYMENTS ACCOUNT TO PROVIDE FOR APPROXIMATELY 3.8 MILLION UNITS. THIS AMOUNT IS NOT BUDGET AUTHORITY, AS YOU KNOW, BUT REPRESENTS AN APPROPRIATION TO LIQUIDATE THE LEGAL PAYMENT COMMITMENTS FOR UNITS UNDER CONTRACT. THE APPROPRIATION COVERS LIQUIDATION PAYMENTS FOR SUBSIDIZED HOUSING PROGRAMS AND INCLUDES SECTION 8, PUBLIC HOUSING, SECTION 235, SECTION 236, RENT SUPPLEMENT ~~AND~~ COLLEGE HOUSING INTEREST REDUCTION GRANTS.

WE ALSO ARE REQUESTING A SUPPLEMENTAL APPROPRIATION FOR 1981 OF NEARLY $257 MILLION TO MEET $44 MILLION OF UNFUNDED LIQUIDATION REQUIREMENTS WHICH WERE INCURRED DURING 1980 AND $213 MILLION OF ADDITIONAL PAYMENTS BECOMING DUE DURING 1981.

FHA FUND

AS YOU KNOW, THE FHA FUND, AS OF 1981, IS NOW UNDER CREDIT CONTROLS IN WHICH SPECIFIC LIMITATIONS ON THE AMOUNT OF COMMITMENTS FOR FHA INSURANCE ARE PROVIDED IN APPROPRIATION ACTS. THIS ADMINISTRATION FIRMLY BELIEVES THAT THERE IS A NEED TO CONTROL FEDERAL CREDIT ACTIVITIES. IN REVIEWING THE AMOUNT OF INSURANCE ACTIVITY WHICH WE CAN REASONABLY EXPECT DURING FISCAL YEARS 1981 AND 1982, IT WAS DETERMINED THAT WE COULD FOREGO THE $4.8 BILLION SUPPLEMENTAL PROPOSED IN THE CARTER BUDGET AS WELL AS REDUCE THE LIMITATION ON INSURANCE COMMITMENTS IN 1982 FROM $44 BILLION TO $35 BILLION. THESE NEW INSURANCE LEVELS REPRESENT OUR CURRENT ESTIMATES OF ACTIVITY AND ARE NOT INTENDED TO IMPOSE A RESTRAINT.

WE ARE ALSO PROPOSING A LIMITATION OF $76 MILLION UNDER THE TEMPORARY MORTGAGE ASSISTANCE PAYMENTS PROGRAM (TMAP) FOR 1982 FOR PAYMENTS ON BEHALF OF HOMEOWNERS WHO HAVE SUFFERED TEMPORARY LOSS OF INCOME DUE TO CIRCUMSTANCES BEYOND THEIR CONTROL.

FOR 1982, WE ARE REQUESTING $222.1 MILLION TO REIMBURSE THE FHA FUND FOR ACTUAL LOSSES EXPERIENCED IN 1980. THESE FUNDS WILL BE USED INSTEAD OF TREASURY BORROWINGS TO PAY INSURANCE CLAIMS AND OTHER OPERATING EXPENSES IN 1982, AND ALSO WILL SERVE TO MAINTAIN THE FINANCIAL SOUNDNESS OF THE FHA FUND. THESE APPROPRIATIONS, OVER THE YEARS, HAVE ALLOWED THE DEPARTMENT TO HOLD THE LINE ON ADDITIONAL TREASURY BORROWING, THEREBY REDUCING THE STEEP RISE IN INTEREST COSTS TO THE FUND.

TROUBLED PROJECTS-FLEXIBLE SUBSIDIES

THE TROUBLED PROJECTS (FLEXIBLE SUBSIDY) PROGRAM WILL CONTINUE TO BE USED TO ADDRESS THE COMPREHENSIVE NEEDS OF AN ESTIMATED 231 FINANCIALLY TROUBLED PROJECTS IN 1982. IN ADDITION, AS A TEMPORARY MEASURE, AN ESTIMATED 1,432 PROJECTS UNDER RENT SUPPLEMENT CONTRACTS ALSO WILL RECEIVE FLEXIBLE SUBSIDY ASSISTANCE PENDING CONVERSION TO SECTION 8 ASSISTANCE. IN TOTAL, OVER 1,600 PROJECTS ARE ESTIMATED TO BE ASSISTED WITH FLEXIBLE SUBSIDY FUNDING IN FY 1982.

THIS PROGRAM IS AN ESSENTIAL INGREDIENT IN REDUCING CLAIMS ON THE FHA FUND. IN ADDITION TO PROVIDING HELP FOR THE TENANTS OF PROJECTS, THIS IS A FEDERAL PROGRAM WHICH ALSO HELPS THE FINANCIAL SITUATION OF THE GOVERNMENT BY CURBING CLAIMS.

CONGREGATE SERVICES

NO ADDITIONAL APPROPRIATION IS BEING PROPOSED FOR THE CONGREGATE HOUSING SERVICES DEMONSTRATION PROGRAM IN 1982. HOWEVER, THE PROGRAM

WILL CONTINUE UTILIZING FUNDS MADE AVAILABLE IN 1979 AND 1980 TO PROVIDE MEAL SERVICES AND ADDITIONAL SUPPORTIVE SERVICES FOR ELIGIBLE TENANTS OF PUBLIC HOUSING AND SECTION 202 PROJECTS BASED ON THREE-TO-FIVE YEAR CONTRACTS WHICH WERE LET IN 1980. PENDING AN EVALUATION OF THE DEMONSTRATION PROGRAM, NO ADDITIONAL FUNDING HAS BEEN REQUESTED FOR 1982 AND A RESCISSION HAS BEEN REQUESTED FOR THE 1981 APPROPRIATION.

GOVERNMENT NATIONAL MORTGAGE ASSOCIATION

LET ME TURN NOW TO THE PROGRAMS OF THE GOVERNMENT NATIONAL MORTGAGE ASSOCIATION.

POPULARLY REFERRED TO AS "TANDEM", THE MORTGAGE PURCHASE ASSISTANCE PROGRAMS PROVIDE FOR THE FINANCING OF SELECTED TYPES OF FHA-INSURED AND VA-GUARANTEED MORTGAGES AS A MEANS OF STIMULATING MORTGAGE LENDING AND CONSTRUCTION ACTIVITIES.

GNMA IS CURRENTLY OPERATING TWO MULTIFAMILY TANDEM PROGRAMS UNDER SPECIAL ASSISTANCE FUNCTIONS, THE SECTION 8 TANDEM AND TARGETED TANDEM PROGRAMS. THE SECTION 8 TANDEM PROGRAM PROVIDES BELOW-MARKET INTEREST RATE PERMANENT MORTGAGE FINANCING FOR NEW AND SUBSTANTIALLY REHABILITATED, FHA-INSURED PROJECTS UNDER CONTRACT FOR SECTION 8 HOUSING ASSISTANCE PAYMENTS.

IT HAS BEEN DECIDED THAT TANDEM SHOULD NO LONGER BE USED AS A VEHICLE FOR SUBSIDIZING SECTION 8 PROJECTS. IN THE FUTURE, MORTGAGES ON PROJECTS TO RECEIVE SECTION 8 ASSISTANCE WILL NOT BE SUBSIDIZED THROUGH TANDEM. IN ADDITION, THE TARGETED TANDEM PROGRAM WILL BE PHASED OUT. ONLY THOSE PROJECTS WHICH HAD AT LEAST SUBMITTED AN APPLICATION FOR A CONDITIONAL OR FIRM INSURANCE COMMITMENT ON OR BEFORE FEBRUARY 13 WILL CONTINUE TO RECEIVE ASSISTANCE.

IN ORDER TO MEET OUR OBLIGATION TO THOSE PROJECTS WHICH HAD PROGRESSED SUBSTANTIALLY IN PROCESSING WHEN THE DECISION TO TERMINATE THE TANDEM PROGRAM WAS MADE, WE ARE PROPOSING THAT SUFFICIENT TANDEM AUTHORITY BE MADE AVAILABLE UNDER THE SECTION 8 AND TARGETED TANDEM PROGRAMS TO COVER ALL SUCH PROJECTS. THE PROJECTS WHICH ARE ELIGIBLE FOR SUCH FINANCING HAD ACHIEVED THE STATUS OF "CONDITIONAL IN PROCESS" TO "FIRM COMMITMENT OUTSTANDING" ON OR BEFORE THE FEBRUARY 13 DATE. WE HAVE REQUESTED $3.6 BILLION OF COMMITMENT AUTHORITY TO ACCOMPLISH THIS PROGRAM OBJECTIVE.

MORTGAGE-BACKED SECURITIES

THE PURPOSE OF THE MORTGAGE-BACKED SECURITIES PROGRAM IS TO INCREASE LIQUIDITY IN THE SECONDARY MORTGAGE MARKET AND ATTRACT NEW SOURCES OF FINANCING FOR RESIDENTIAL LOANS. GNMA, BACKED BY THE FULL FAITH AND CREDIT OF THE UNITED STATES GOVERNMENT, GUARANTEES THE TIMELY PAYMENT OF PRINCIPAL AND INTEREST ON SECURITIES ISSUED BY PRIVATE FINANCIAL INSTITUTIONS AND COLLATERALIZED BY POOLS OF GOVERNMENT-UNDERWRITTEN RESIDENTIAL MORTGAGES.

SINCE THE PROGRAM BEGAN IN FEBRUARY 1970, GNMA HAS GUARANTEED OVER $117 BILLION IN MORTGAGE-BACKED SECURITIES, AND HAS HELPED TO FINANCE THE PURCHASE OF OVER 3 MILLION HOUSING UNITS.

DURING FISCAL YEAR 1980, GNMA GUARANTEED A RECORD $23.0 BILLION IN MORTGAGE-BACKED SECURITIES. GNMA EXPECTS TO GUARANTEE SECURITIES AT OR NEAR RECORD LEVELS IN FY 1981 AND AGAIN IN FY 1982. REFLECTING THESE ESTIMATES, THE DEPARTMENT HAS REQUESTED AUTHORITY TO ISSUE COMMITMENTS TO GUARANTEE SECURITIES OF UP TO $64 BILLION THIS YEAR AND NEXT.

THE GNMA MORTGAGE-BACKED SECURITIES PROGRAM IS NOW INCLUDED IN THE FEDERAL CREDIT CONTROL SYSTEM. BEGINNING IN FY 1981, LIMITS WERE PLACED ON THE AMOUNT OF COMMITMENTS TO GUARANTY SECURITIES THAT GNMA COULD

ALLOCATE TO ITS ISSUERS OF SECURITIES. THE FY 1981 LIMIT ON THE ISSUANCE OF SUCH COMMITMENTS WAS SET AT $53 BILLION. HOWEVER, THE DEPARTMENT HAS REQUESTED A SUPPLEMENTAL INCREASE OF $11 BILLION, RAISING THE FY 1981 TOTAL TO $64 BILLION. A SIMILAR AMOUNT ($64 BILLION) HAS BEEN REQUESTED FOR FY 1982.

SOLAR ENERGY AND ENERGY CONSERVATION BANK

THE SOLAR ENERGY AND ENERGY CONSERVATION BANK IS A PROGRAM WHICH WE DO NOT BELIEVE IS NEEDED AND WE PROPOSE TO ELIMINATE IT DURING 1981. THIS PROPOSAL WILL RESULT IN SAVINGS OF BUDGET AUTHORITY OF ABOUT $121 MILLION. THE PROGRAM IS BEING ELIMINATED SINCE SUBSTANTIAL ECONOMIC INCENTIVES ALREADY EXIST FOR SOLAR TECHNOLOGY INVESTMENT AS A RESULT OF RISING ENERGY PRICES. THERE IS THE ADDED INCENTIVE OF A 15-PERCENT TAX CREDIT FOR RESIDENTIAL ENERGY CONSERVATION IMPROVEMENTS AND A 40-PERCENT TAX CREDIT FOR SOLAR TECHNOLOGY INVESTMENTS.

COMMUNITY PLANNING AND DEVELOPMENT PROGRAMS

NOW, I WOULD LIKE TO DISCUSS OUR 1982 APPROPRIATION REQUEST FOR THE COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM. MR. CHAIRMAN, AS YOU KNOW, CHANGES IN BOTH THE BLOCK GRANT AND URBAN DEVELOPMENT ACTION GRANT PROGRAMS ARE CURRENTLY UNDER DEVELOPMENT.

PROPOSED LEGISLATION WOULD SUBSTANTIALLY RESTRUCTURE TITLE I OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974 TO INCREASE LOCAL FLEXIBILITY AND MINIMIZE FEDERAL INVOLVEMENT, CONSISTENT WITH OUR DESIRE TO RETURN POWER AND DECISION MAKING TO LOCALITIES AND STATES. IT WOULD PROVIDE A SINGLE FUNDING SOURCE TO SUPPORT BLOCK GRANT ELIGIBLE ACTIVITIES AND A REVISED UDAG PROGRAM. THE OVERALL AUTHORIZATION FOR THIS EXPANDED PROGRAM WOULD BE $4.166 BILLION IN EACH OF FISCAL YEARS 1982 AND 1983.

The new program would contain four elements: a revised action grant program, a scaled-down Secretary's Discretionary fund, an entitlement program for large cities and urban counties, and a block grant program for the States to assist their smaller localities.

The Revised UDAG program would be funded as a new account at $500 million for Fiscal Year 1982. A study of the UDAG program's effectiveness is already underway, and the results of this study will be given careful consideration in the Administration's future proposals concerning community and economic development activities. The revised program would continue the essential features of the current UDAG authority, including eligible recipients, eligibility criteria and the leveraging of private resources. However, it would include several changes designed to pare down the program to its primary economic development objective, clear it of unnecessary application requirements and Federal red tape, and emphasize rigorous program administration to minimize the amount of Federal dollars needed to stimulate private investment in individual projects.

The legislation proposes a funding authorization for the Secretary's Discretionary Fund of not more than $60 million for each of Fiscal Years 1982 and 1983. This represents a reduction from the current levels of $104 million for Fiscal Year 1982 and $107 million for Fiscal Year 1983. The reduction is attributable to fund uses which this bill would eliminate, including grants for Disasters, and Areawide projects. The bill would continue grants from the fund for Indian Tribes, Territories, the New Communities Program and a Technical Assistance category expanded to include special projects.

After funds have been provided for the revised Action Grant program and the Discretionary Fund, the remaining funds would be divided in two, with 70 percent set aside for entitled communities, and the remaining 30 percent to be used by States for the State block grant program. The entitlement program would remain unchanged. Metropolitan cities and urban counties would continue to receive amounts determined by the existing dual formula.

In the State block grant program, each State would receive an allocation based on the current dual formula. States would distribute funds to their smaller units of general local government to carry out eligible community and economic development activities. States would be free to design fund distribution systems tailored to local needs and preferences, and would be responsible for overall administration of funds distributed. HUD's role would be limited to reviews and audits.

Because some states may not be ready--either because of capacity or legal reasons--to take over the program immediately, we propose to make the State assumption optional in Fiscal Year 1982 and mandatory in 1983. HUD would continue to administer the program under essentially the existing requirements in those states choosing to wait until 1983 to assume the program.

The Budget also proposes a limitation of $250 million for Section 108 loan guarantees in 1982, pursuant to Federal Credit Control requirements that were implemented in 1981. After this year, the Federal Financing Bank will no longer be a lending source for the Section 108 Loan Guarantee program. Communities will be expected to seek their financing, with the Federal guarantee, on the private market.

No appropriation is requested for the Urban Homesteading Program in 1982. The Department proposes to continue this program with the use of prior year appropriations. Approximately 1,500 properties will be conveyed to homesteaders in each of 1981 and 1982 at an average value of about $9,000 per property.

CPD PROGRAMS FOR TERMINATION

As for the Categorical Section 701, Planning Assistance and Section 312, Rehabilitation Loan programs, the Committee has previously been advised of

THE PROPOSALS TO TERMINATE THESE PROGRAMS. FUNDING FOR THESE TYPES OF ACTIVITIES IS AVAILABLE UNDER THE BLOCK GRANT PROGRAM AND THERE IS NO REASON TO CONTINUE SEPARATE FUNDING SOURCES FOR PLANNING AND REHABILITATION ACTIVITIES.

NEW COMMUNITY DEVELOPMENT CORPORATION

THE NEW COMMUNITY DEVELOPMENT CORPORATION WILL CONTINUE THE POLICY OF STRONG AND VIGOROUS SUPPORT FOR THOSE REMAINING AND VIABLE NEW COMMUNITIES. THOSE DETERMINED NOT TO BE VIABLE WILL BE CLOSED OUT IN THE MOST EXPEDITIOUS AND COST EFFECTIVE MANNER POSSIBLE.

OF THE 13 NEW COMMUNITY PROJECTS WHICH HAVE RECEIVED GUARANTEES, SEVEN HAVE BEEN ACQUIRED AND TWO OTHERS ARE IN THE PROCESS OF ACQUISITION. FOUR OF THESE HAVE BEEN FULLY OR PARTIALLY DISPOSED OF AND IT IS ANTICIPATED THAT THREE MORE WILL BE DISPOSED OF DURING 1981 AND THE REMAINING TWO IN 1982.

FOR THE FOUR CONTINUING NEW COMMUNITIES, WE INTEND TO CONSIDER RESTRUCTURING THE FINANCIAL OBLIGATIONS OF THESE PROJECTS IN ORDER TO ASSURE THEIR LONG-TERM VIABILITY. IN ADDITION, THERE ARE THREE PROJECTS WHICH HAVE RECEIVED TITLE VII CERTIFICATION WHICH PROVIDES THAT HUD ASSISTANCE OTHER THAN LOAN GUARANTEES MAY BE PROVIDED.

AS I ADVISED THE CHAIRMAN IN MY LETTER OF MARCH 26, THE NUMBER OF PERMANENT POSITIONS PLANNED FOR ASSIGNMENT TO THE CORPORATION IN 1981 IS ESTIMATED AT 54. THIS NUMBER WILL BE CONTINUED IN 1982 TO FACILITATE THE EVENTUAL CLOSE-OUT OF THIS PROGRAM.

REORGANIZATION OF NVACP FUNCTIONS

MY MARCH 26 LETTER ALSO INDICATED THE DECISION NOT TO APPOINT AN ASSISTANT SECRETARY FOR NEIGHBORHOODS, VOLUNTARY ASSOCIATIONS, AND

Consumer Protection and reassign NVACP responsibilities to other elements of the Department in order to reduce Departmental overhead costs. Combined with the decisions to terminate the Neighborhood Self-Help Development program and reduce the Housing Counseling Assistance program, the effect is to reduce staffing requirements for the former NVACP functions and programs from 369 in 1980 to 160 in each of 1981 and 1982.

HOUSING COUNSELING ASSISTANCE

The Department proposes to rescind $6 million of the $10 million 1981 appropriation and refocus the Housing Counseling program from comprehensive counseling to its original purpose of mortgage default counseling at a level of $4 million. For fiscal year 1982, the Department is requesting an appropriation of $4 million to provide default and delinquency counseling services. The $4 million program level will provide support to an estimated 320 HUD-approved counseling agencies for counseling in the areas of financial and home management, property care and maintenance, relief measures for defaulting mortgagors, referrals to community resources and counseling follow-up. These funds will provide counseling for approximately 50,000 clients in 1982.

NEIGHBORHOOD SELF-HELP DEVELOPMENT PROGRAM

The Committee is also aware that the Department proposes to terminate the Neighborhood Self-Help Development program in 1981. The rescission proposal is based on the fact that there is no compelling reasons for direct Federal support of neighborhood organizations as well as the fact that other Federal funds, including Community Development Block Grants, are available to promote neighborhood efforts, at the discretion of localities.

POLICY DEVELOPMENT AND RESEARCH

AN APPROPRIATION OF $35 MILLION IS REQUESTED IN 1982 FOR THE RESEARCH AND TECHNOLOGY ACCOUNT. WHEN ADDED TO THE $5 MILLION DEFERRAL OF RESEARCH FUNDS FROM 1981, $40 MILLION WOULD BE AVAILABLE TO ENABLE THE DEPARTMENT TO CARRY OUT AN ESSENTIAL RESEARCH PROGRAM.

AN ADEQUATELY FUNDED RESEARCH PROGRAM IS AN EXTREMELY USEFUL TOOL FOR THE ADMINISTRATION AND THE CONGRESS IN MAKING IMPORTANT DECISIONS ON THE NATURE, FUTURE, AND EFFECTIVENESS OF OUR PROGRAMS. IN THE MONTHS AHEAD, IT WILL BE SIGNIFICANTLY RESTRUCTURED BY ASSISTANT SECRETARY E. S. SAVAS, WHO HEADS THE OFFICE OF POLICY DEVELOPMENT AND RESEARCH. OUR INTENTION IS TO FOCUS THE ACTIVITY OF THAT OFFICE SO THAT IT BECOMES A MAJOR RESOURCE FOR POLICIES TO REFORM AND SIMPLIFY PROGRAMS, AND TO IDENTIFY MORE COST-EFFECTIVE WAYS TO MEET THE NEEDS OF OUR COMMUNITIES. ONE SUCH IMPORTANT ACTIVITY WILL BE TO PROVIDE ANALYTICAL SUPPORT TO A PRESIDENTIAL COMMISSION WHICH WILL REEXAMINE CURRENT HOUSING ASSISTANCE TECHNIQUES AND HOME MORTGAGE SUPPORT. THE RECOMMENDATIONS OF THE COMMISSION WILL ASSIST BOTH THE DEPARTMENT AND THE CONGRESS TO DETERMINE WHETHER PRESENT DEPARTMENTAL PROGRAMS REMAIN APPROPRIATE OR WHETHER NEW AND MORE COST-EFFECTIVE ALTERNATIVES NEED TO BE DEVELOPED. ANOTHER PRIORITY EVALUATION EFFORT WILL BE AN ANALYSIS OF THE URBAN DEVELOPMENT ACTION GRANT PROGRAM WHICH SHOULD ENHANCE OUR ABILITY TO MAKE INFORMED DECISIONS ABOUT THE FUTURE OF THE UDAG PROGRAM.

FAIR HOUSING AND EQUAL OPPORTUNITY

WE ARE REQUESTING ANOTHER $5.7 MILLION FOR THE FAIR HOUSING ASSISTANCE PROGRAM IN 1982—THE SAME LEVEL AS 1981. THIS PROGRAM, WHICH SHOULD BE FULLY OPERATIONAL THIS YEAR, PROVIDES RESOURCES TO ALLOW STATE AND LOCAL HUMAN RIGHTS AGENCIES AND PRIVATE GROUPS TO FORM A PARTNERSHIP WITH HUD IN ENFORCING THE FAIR HOUSING LAW. THE BASIC PURPOSE OF THE PROGRAM IS TO EXPEDITE THE HANDLING OF COMPLAINTS THROUGH REFERRALS TO

STATE AND LOCAL AGENCIES SO THAT THE COMPLAINTS ARE PROCESSED UNDER THEIR LAWS RATHER THAN BY FEDERAL EMPLOYEES.

IN FISCAL YEAR 1982, WE WILL CONTINUE TO ENGAGE IN A VIGOROUS ENFORCEMENT PROGRAM AGAINST DISCRIMINATION IN HOUSING, AND DISCRIMINATION IN THE PROVISION OF SERVICES AND BENEFITS RESULTING FROM FEDERAL FUNDS. THE STAFFING LEVEL REQUESTED FOR 1981 IS 590 PERMANENT POSITIONS, ALSO THE SAME LEVEL AS 1980. WHILE THE NUMBER OF STAFF IS NOT INCREASING, WE WILL ENDEAVOR TO ENHANCE THE ENFORCEMENT OF FAIR HOUSING AND OTHER CIVIL RIGHTS LAWS AND WILL CONTINUE THE FHEO COMPREHENSIVE STRATEGY WHICH WAS IMPLEMENTED IN 1980. WE NOW HAVE, IN EVERY REGION, A FUNCTIONING SYSTEMIC UNIT AND STAFF CAPACITY FOR RAPID RESPONSE PROCESSING OF HOUSING DISCRIMINATION COMPLAINTS. MOREOVER, OUR FIELD STAFF ARE USING IMPROVED CRITERIA FOR COMPLIANCE REVIEWS OF RECIPIENTS OF HUD PROGRAMS AND WILL CONTINUE TO ASSIST RECIPIENTS WITH FRONT-END TECHNICAL ASSISTANCE TO ADDRESS PROBLEMS AS THEY ARISE AND BEFORE NON-COMPLIANCE BECOMES THE ISSUE.

1981 FOURTH QUARTER OBLIGATION LIMITATION

FOR A NUMBER OF ITS ACCOUNTS, THE DEPARTMENT HAS REQUESTED FROM OMB WAIVERS FROM THE 30 PERCENT LIMITATION ON FOURTH QUARTER OBLIGATIONS, SPECIFIED IN THE GENERAL PROVISIONS OF OUR 1981 APPROPRIATION ACT. MANY HUD PROGRAMS SHOW A DISPROPORTIONATE RATE OF OBLIGATION IN THE FINAL QUARTER OF THE FISCAL YEAR. BUT FOR MOST HUD PROGRAMS, THE LATE SURGE IN OBLIGATIONS HAS NOTHING TO DO WITH "DUMPING" OR BUYING UNNEEDED GOODS OR SERVICES JUST TO SPEND THE MONEY. IT HAS EVERYTHING TO DO WITH CAREFUL PLANNING TO MEET LOCAL COMMUNITY NEEDS AND TO ASSURE THAT FEDERAL SPENDING IS SYSTEMATICALLY AND APPROPRIATELY TARGETED. FROM THE TIME CONGRESS MAKES FUNDS AVAILABLE IN APPROPRIATION ACTS, THE DEPARTMENT MAKES EVERY EFFORT TO ASSURE THAT THE FUNDS REACH THEIR INTENDED LOCAL HOUSING AGENCY OR COMMUNITY AS SYSTEMATICALLY AS POSSIBLE. BUT, FOR MANY PROGRAMS, THIS OFTEN MEANS THAT FUNDING ARRIVES LATE IN THE SUMMER. THERE ARE ESSENTIALLY THREE REASONS WHY THIS IS THE CASE:

— THERE ARE STATUTORY REQUIREMENTS THE DEPARTMENT MUST MEET IN ALLOCATING FUNDS ACCORDING TO THE FAIR SHARE FACTORS AND HOUSING ASSISTANCE PLANS AS APPROVED BY THE DEPARTMENT;

— PROGRAM APPLICANTS REQUIRE A LONG LEAD TIME TO PREPARE APPLICATIONS; AND

— THE APPLICATION APPROVAL PROCESS TAKES TIME.

THE DEPARTMENT MAKES EVERY EFFORT TO OBLIGATE FUNDS AS EVENLY AS POSSIBLE THROUGHOUT THE FISCAL YEAR. BUT IT IS NOT ALWAYS POSSIBLE TO AVOID THE SURGE IN THE LAST QUARTER, NOR WOULD OUR CLIENTS BE PREPARED TO RADICALLY ALTER THEIR OWN CALENDARS SIMPLY TO EVEN OUT THE NATIONAL PATTERN OF OBLIGATION.

DEPARTMENTAL MANAGEMENT

OUR 1982 STAFFING REQUEST IS FOR 14,607 PERMANENT FULL-TIME PERSONNEL, A DECREASE OF 258 FROM THE 1981 ESTIMATE OF 14,865. MOST OF THE REDUCTION IS ACCOUNTED FOR BY LOWER STAFFING IN HOUSING PROGRAMS AND COMMUNITY PLANNING AND DEVELOPMENT, BASED ON THE LOWER WORKLOAD LEVELS PLANNED FOR 1982. ALSO, AS I HAVE INDICATED, STAFF SAVINGS ARE PROJECTED DUE TO THE ABSORPTION OF NVACP FUNCTIONS BY OTHER ELEMENTS OF THE DEPARTMENTS.

OF COURSE, THESE PERSONNEL NUMBERS ARE BASED ON THE REVISED PROGRAM AND WORKLOAD ESTIMATES CONTAINED IN THE BUDGET AND ASSUME THE APPROVAL OF THE RESCISSIONS AND DEFERRAL PROPOSED BY THE PRESIDENT. TO THE EXTENT THAT THE RESCISSIONS AND DEFERRAL ARE NOT APPROVED, RELATED INCREASES IN STAFFING WOULD BE REQUIRED.

MR. CHAIRMAN, THAT CONCLUDES MY PREPARED REMARKS. I WOULD BE HAPPY TO ANSWER ANY QUESTIONS YOU MAY HAVE.

BIOGRAPHY OF SAMUEL R. PIERCE, JR.

Samuel Riley Pierce, Jr., Secretary of Housing and Urban Development, born in Glen Cove, Long Island, New York; was nominated to be Secretary of Housing and Urban Development by President Ronald Reagan on December 22, 1980; confirmed by the Senate on January 22, 1981, and sworn in on January 23, 1981 at the White House.

Prior to his nomination, Mr. Pierce was a senior partner in the New York law firm of Battle, Fowler, Jaffin, Pierce & Kheel. His Federal Government experience includes service as: General Counsel of the Department of the Treasury from 1970 to 1973; Associate Counsel and subsequently Counsel of the Subcommittee on Antitrust of the Committee on the Judiciary of the House of Representatives during 1956 and 1957; and as the Assistant to the Under Secretary of the Department of Labor from 1955 to 1956. He received the Department of the Treasury's highest honor, the Alexander Hamilton Award, in 1973.

Secretary Pierce served as a judge of the New York Court of General Sessions from 1959 to 1960. He was an Assistant United States Attorney for the Southern District of New York from 1953 to 1955 following service as an Assistant District Attorney for New York County. He was admitted to the New York State Bar in 1949 and to practice before the United States Supreme Court in 1956.

Among his civic, educational and corporate activities, Secretary Pierce has served as a member of the New York City Board of Education; the Battery Park City Authority; as a director of the New York World's Fair Corporation; as a governor of the American Stock Exchange; as an adjunct professor at the New York University School of Law; and as a trustee of the Rand Corporation, Cornell University, Howard University, Mount Holyoke College and Hampton Institute. He has been a director of Prudential Insurance Company of America, General Electric Company, International Paper Company, U.S. Industries, Public Service Electric and Gas Company, International Basic Economy Corporation, First National Boston Corporation, and First National Bank of Boston.

A Phi Beta Kappa graduate from Cornell University in 1947, Secretary Pierce also received his law degree from Cornell in 1949. He received a Master of Laws Degree in Taxation in 1952 and was awarded an honorary Doctor of Laws Degree in 1972 from the New York University School of Law, where he was a member of the faculty for many years. From 1957 to 1958, Secretary Pierce was a Ford Foundation Fellow at the Yale Law School. He has written many legal articles for professional journals and has contributed to several books.

Secretary Pierce is married to the former Barbara Penn Wright and they have a daughter, Victoria. A veteran of World War II, he served three years in North Africa and Italy with the Army's Criminal Investigation Division.

BIOGRAPHY OF DONALD I. HOVDE

Donald I. Hovde of Madison, Wisconsin, was sworn in as Under Secretary of the Department of Housing and Urban Development on March 31, 1981.

As Under Secretary, Mr. Hovde is number two in the Department and oversees its day-to-day operations. In the absence of the Secretary, Mr. Hovde serves as Acting Secretary.

Prior to his nomination to the HUD post, Mr. Hovde was owner and president of Hovde Realty, Inc., a commercial and investment real estate brokerage firm in Madison, Wisconsin. One of the largest developers in Dane County, Wisconsin, Mr. Hovde also headed the 122 Building Corporation, a real estate investment holding company that revitalized many central city commercial office buildings. He was also national senior vice president of Partners Real Estate, Inc.

Mr. Hovde capped a long-time association with the National Association of Realtors by becoming president of the 760,000 member organization in 1979. Prior to becoming one of the youngest presidents of the Association, which has a $50 million annual budget, Mr. Hovde held virtually every major office in the organization at the local, State, and national levels, and was named 'Realtor of the Year' for Wisconsin in 1976. As president of the National

Association of Realtors, Mr. Hovde traveled throughout the Nation to alert the American people to the increasing obstacles to homeownership and housing affordability, thereby helping to create a greater public awareness of the crisis in housing. During his tenure as president, Mr. Hovde restructured many of the departments and committees within the Association, streamlining its organizational structure to better serve the membership.

Very active in civic and community affairs in his home town, Mr. Hovde is a past president of the Greater Madison Chamber of Commerce and helped organize the Central Madison Council which served as the nucleus group in stimulating inner-city redevelopment. He served as a director of the Methodist Hospital Foundation and was general chairman of a fund-raising drive that generated $1 million which served as seed money for a major housing facility for the elderly.

Mr. Hovde earned a Bachelor of Business Administration (B.B.A.) degree in finance at the University of Wisconsin in 1953. He was commissioned in the U.S. Army the same year, earned his pilot's wings in 1958, and served in the Army Reserve until 1963, achieving the rank of captain.

Mr. Hovde, 50, his wife Ginny and their children live on Lake Mendota in Madison.

BIOGRAPHY OF E. S. SAVAS

Assistant Secretary for Policy Development and Research

Dr. E.S. Savas was nominated to be Assistant Secretary for Policy Development and Research on February 23, 1981 by President Reagan. He was confirmed by the Senate on April 2, 1981, and sworn into office by HUD Secretary Samuel R. Pierce, Jr. on April 8, 1981.

The Assistant Secretary for Policy Development and Research is the principal advisor to the Secretary on overall departmental policy, program evaluation and research.

The Policy Development Research staff works closely with other HUD program officials, field staff, State and local governments, academicians, and representatives of HUD's constituent groups to assist the Secretary in improving program operations and setting departmental policies, goals, and priorities. The studies, evaluations, tests, and demonstrations undertaken to support these roles are carried out by in-house staff and through grants, contracts (with industry, nonprofit research organizations, and educational institutions), and agreements with State and local governments, other Federal agencies, and private foundations.

Prior to his nomination, Dr. Savas was Director of the Center for Government Studies and Professor of Public Systems Management at the Graduate School of Business, Columbia University. He was First Deputy City Administrator of New York from 1970 to 1972 and Deputy City Administrator from 1967 through 1969. From 1959 through 1967, Dr. Savas served in a number of management positions with the IBM Corporation, including Manager of Urban Systems from 1966-67.

Dr. Savas earned a Bachelors Degree with Honors from the University of Chicago in 1951; a Bachelor of Science Degree, also from the University of Chicago, in 1953; a Masters Degree from Columbia University in 1956 and a Ph.D., also from Columbia, in 1960.

Dr. Savas is the recipient of numerous honors including the Louis Brownlow Memorial Award from the American Society of Public Administration for "distinguished contribution to the literature of public administration."

He is the author of more than 50 articles and five books, including: *Alternatives for Delivering Public Services: Toward Improved Performance* and *Computer Control of Industrial Processes*.

A sought-after lecturer in his field, Dr. Savas has spoken in many foreign countries, including the Soviet Union, Japan, France, and Greece, as well as before groups in numerous colleges and universities in the United States. He has been a consultant for local governments throughout the United States and abroad on improving the performance and productivity of government services.

Dr. Savas is an Army veteran and served in Korea from 1953-1955. He resides with his wife and two sons in Tenafly, New Jersey.

BIOGRAPHY OF PHILIP D. WINN

Assistant Secretary for Housing--Federal Housing Commissioner

In his dual capacity as Assistant Secretary for Housing and Federal Housing Commissioner, Philip D. Winn directs a wide range of mortgage insurance and assisted housing programs designed to help meet the housing needs of lower and middle-income Americans.

Among the programs that he administers are the Department's home and multifamily mortgage insurance programs, the Section 8 Rental Housing Assistance program for lower income families, the Low-Income Public Housing program, the Housing for the Elderly or Handicapped Loan program and the Title I Home Improvement and Manufactured Home Loan program.

Prior to his appointment as Assistant Secretary for Housing--Federal Housing Commissioner, Mr. Winn was Chairman of the Board of Philip D. Winn and Associates, a Denver, Colorado real estate development and property acquisition firm. He also served as Chairman of the Board of Winn/Olson Marketing Group, a marketing research and financial consulting firm primarily concerned with residential real estate. From 1964 to 1976, Mr. Winn was a principal and senior vice president of Witkin Homes, a leading Colorado homebuilder which was acquired by U.S. Homes Corporation.

Mr. Winn is a former member of the board of directors of the Colorado Homeowner's Warranty Council, a former board member of the Colorado Association for Housing and Building, and a former member of the board of directors of the Homebuilders of Metropolitan Denver. He was president of the Homebuilders organization in 1975 and was elected "Man of the Year" in 1971.

Mr. Winn graduated in 1948 from the University of Michigan with a Bachelor of Business Administration (BBA) degree.

Born on February 1, 1925 in New Britain, Connecticut, Mr. Winn is married and the father of two children, Donna, age 25, and Jordan, age 17.

BIOGRAPHY OF FRED TAYLOR

EXECUTIVE VICE PRESIDENT
GOVERNMENT NATIONAL MORTGAGE ASSOCIATION

Fred Taylor was named Executive Vice President of the Government National Mortgage Association (GNMA) on May 25, 1979. Before assuming the position of Executive Vice President, Mr. Taylor served as Acting Executive Vice President from March 13 to May 24, 1979 and as Executive Assistant to the President of GNMA from May 22, 1977 to March 12, 1979. Prior to that time, Mr. Taylor served as Special Assistant to the Deputy Assistant Secretary for Insured and Direct Loan Programs in the Office of Housing. Mr. Taylor also served as Senior Economist in the Office of Program Analysis and Policy Development and as an economist in the Office of Policy Development and Research at the Department of Housing and Urban Development (HUD).

Mr. Taylor has received three Certificates of Special Achievement for his work at HUD (1976, 1977 and 1978), the Outstanding Achievement Award from the Secretary of HUD in 1979, and the Meritorious Executive Award from the President of the United States in September 1980.

Prior to coming to HUD in 1972, Mr. Taylor served for five years as an economist at the Board of Governors of the Federal Reserve System. Mr. Taylor attended the American University in Washington, D.C. where he received a B.A. and M.A. in Economics and completed all course work toward a Ph.D. Mr. Taylor was awarded a graduate assistantship at American University and was President of the local chapter of the National Economics Honor Society (Omicron Delta Epsilon).

Mr. Taylor was born in Annapolis, Maryland on June 11, 1941. He is married to the former Karen Conlin of Ft. Lauderdale, Florida. The Taylors have one daughter (Leigh) and live in Davidsonville, Maryland.

BIOGRAPHY OF DONALD G. DODGE

Mr. Dodge is Acting General Deputy Assistant Secretary during the transition from the former to the present administration.

Before his present assignment he was Director, Office of Policy Planning, Community Planning and Development. Immediately prior to this appointment he served as the Director, Office of Evaluation for Community Planning and Development from July 1971 to October 1978.

As Director, Office of Policy Planning, he was principal advisor to the Assistant Secretary on all matters relating to the Secretary's Discretionary Fund. The Fund was established by the Housing and Community Development Act of 1974 and is comprised of eight program catagories, which include: Indian and Alaskan Native, and Insular Areas Community Development Block Grants; Disaster Assistance; Innovative Grants and Technical Assistance.

Previously, he served in the Federal Government as Deputy Director of Program Operations for the Model Cities program and Director of the Office of Program Development for Model Cities.

Before joining HUD in March 1967, Mr. Dodge was Special Assistant to the Director of Job Corps, Office of Economic Opportunity, and Director of Recruitment and Selection of Job Corps enrollees. From 1962 to 1965 he was Project Director (Research) at the Youth Studies Center, University of Southern California. Earlier he served for four years as manager of production control for Essex Wire Corporation, San Diego, California. He has also been a consultant in urban affairs, executive development, research data systems, and criminal justice to Federal, State, and local governments and universities.

Mr. Dodge is a native of Boulder, Colorado, where he attended public schools. He holds undergraduate degrees from San Diego City College and California State University at San Diego, and a Master's Degree in Public Administration from the University of Southern California.

BIOGRAPHY OF JOHN B. CLINTON

John B. Clinton was born in Boston, Massachusetts, on February 14, 1927. From 1944 to 1946 he served in the U.S. Navy. He attended Georgetown University and Boston College, graduating from the latter in 1952, with a B.S. degree, magna cum laude, in Economics. He attended the Harvard Graduate School of Public Administration, graduating with a Masters degree in Public Administration in 1953.

Entering the Federal service, he was employed in the Bureau of the Budget from 1953 to 1962. Mr. Clinton served in the position of budget examiner, Staff Assistant to the Director, and concluded with the position of senior budget examiner.

Areas of assignment in the Budget Bureau included the operating programs of the Treasury and Justice Departments, Congressional, White House and other Federal agency liaison, communication and electronic systems of the Defense Department and the several programs of the Atomic Energy Commission.

From 1962 to 1966 Mr. Clinton was employed as a financial analyst in the Office of the Assistant Secretary of the Air Force for Financial Management (White House detail).

In 1966, Mr. Clinton joined the U.S. Department of Housing and Urban Development as Special Assistant to the Under Secretary and in January of 1967, was appointed Assistant Director for Federal Agency Liaison in the Model Cities Administration.

In October of 1967, Mr. Clinton was assigned in HUD to a Presidential program designed to utilize Federal surplus lands to meet critical urban needs. This program was designed to foster the creation of new communities on surplus land provided by the Federal government.

In August of 1970, Mr. Clinton was appointed as a Director, in the Office of New Community Development.

In September of 1976, Mr. Clinton became Deputy Administrator for Program Policy and Management, New Communities Administration.

In November 1978, Mr. Clinton was named Director, Office of Program Policy and Management in the New Community Development Corporation. Mr. Clinton is a member of the Senior Executive Service and since January 20, 1981, has been acting as the lead NCDC career management official during the transition.

Mr. Clinton's home is in Falls Church, Virginia. He is married to Joan Monagan Clinton and they are the parents of 9 children.

BIOGRAPHY OF WILLIAM O. ANDERSON

GENERAL DEPUTY ASSISTANT SECRETARY
NEIGHBORHOODS, VOLUNTARY ASSOCIATIONS AND CONSUMER PROTECTION

William O. Anderson was named to the position of General Deputy Assistant Secretary for the Office of Neighborhoods, Voluntary Associations, and Consumer Protection in 1980.

Prior to appointment in his present position, Mr. Anderson served as Regional Administrator for Region VII, Kansas City at HUD where he was responsible for managing, coordinating, and evaluating HUD's programs and activities Region-wide and serving as the Secretary's representative in the Region. This responsibility also included serving as the principle liaison with Governors and other state and local officials as well as interest groups and the general public on HUD programs and policies. This required a thorough familiarity with Departmental and related Administration proposals and policies. Mr. Anderson had served in this capacity since 1977. In addition, he also had numerous affiliations of active participation in many organizations, committees, and boards. For example, he has served as both First Vice-Chairman and Chairman of the Kansas City Federal Executive Board, an active member of the Federal Regional Council, a member of the Kansas City, Missouri Construction Committee, and a member of the Missouri River Basin Commission, to name a few.

Previous to that time, from 1970 to 1977, he served in various management capacities in the Office of Community Planning and Development in the Department. His breadth of experience during this period provided him with broad knowledge and skill in administration of the Department's programs in addition to knowledge of and skill in the policy and legislative aspects of the programs applicable to the Headquarters and Field office components. Mr. Anderson's service in the Federal sector has been marked with consistent recognition with many professional awards and honors which include a Certificate of Meritorious Performance, a Certificate of Merit Award, and a Distinguished Service Award.

Prior to serving in the Federal Government, Mr. Anderson was Deputy Director, City of Toledo Model Cities Agency from 1969 to 1970 where he served at the local level in coordinating and administering the Model Cities Program which included contacts with HUD in the implementation of housing and rehabilitation programs. From 1968 to 1969, he directed planning and execution activities for relocation as Director - Relocation at the Urban Renewal Agency for the City of Toledo, Ohio. From 1967 to 1968, he was Deputy Director of the Economic Opportunity Planning Association in Toledo, Ohio with responsibility for the administration of the office as well as the local Poverty Program encompassing the implementation of the total Neighborhood Opportunity Center Project. This responsibility included the implementation of grants. During the period from 1955 to 1967, Mr. Anderson worked in the private sector in management capacities.

Mr. Anderson is a native of Toledo, Ohio, however, he has maintained residency in Hillcrest Heights, Maryland since 1971. He received his Bachelor of Arts in Government in 1960 from the University of Toledo in Toledo, Ohio. In 1974 he received a Master of Public Affairs from Southern Illinois University in Edwardsville, Illinois.

BIOGRAPHY OF PETER KAPLAN

Deputy Assistant Secretary for Operations and Management
Office of Fair Housing and Equal Opportunity

Since his appointment to HUD in 1977, Peter Kaplan served as Special Assistant to Secretary Patricia R. Harris and Under Secretary Jay Janis before being named Deputy Assistant Secretary for Operations and Management in the Office of Fair Housing and Equal Opportunity.

Prior to his appointment to HUD, Mr. Kaplan was Associate Vice President for Organization and Management at the University of Massachusetts. From 1967 to 1970, he was a management specialist with the National Aeronautics Space Administration Electronics Reseach Center in Cambridge, Massachusetts and with the Transportation Research Center of the Department of Transportation, also in Cambridge. He entered government in 1967 as a NASA management intern.

Born in New York City, Mr. Kaplan received his Bachelor of Arts degree in political science from the City College of New York in 1964 and his J.D. degree from the New York University law school in 1967. He is a member of the Massachusetts and District of Columbia bars.

In his current position at HUD Mr. Kaplan is responsible for programs involving the day-to-day management and operation of the Office of Fair Housing and Equal Opportunity. In addition, this position includes a wide variety of responsibilities for the development of short-range and long-range strategies, research programs, and utilization of resources to carry out nation-wide and Department-wide civil rights responsibilities.

His past and present professional affiliations include membership in the American Society for Public Administration, the Academy of Academic Personnel Administration, the Boston Bar Association, as well as others. His awards include the Distinguished Service Award, HUD, 1980; the Secretary's Outstanding Achievement Award, HUD, 1979; the Secretary's Certificate of Special Outstanding Achievement Award, HUD, 1978; and Special Achievement Award, Department of Transportation, 1971.

Mr. Kaplan and his two children live in Washington, D.C.

CHANGES IN HOUSING AND COMMUNITY DEVELOPMENT PROGRAMS

Senator GARN. Before we start questions, Senator Huddleston, do you have any comments you would like to make.

Senator HUDDLESTON. Mr. Chairman, I, too, want to welcome the Secretary this morning. I have not had the opportunity to work with you before, Mr. Secretary, as the chairman has, but I certainly hope to do so in connection with the issues that are before this subcommittee.

A number of HUD housing and community development programs have been important to my State of Kentucky and, I believe, to the entire Nation. That is not to say that there are not serious problems in certain of those programs, with the cost of section 8 and new construction and flaws in the financing subsidy system being, perhaps, among the foremost.

The housing industry is also important to my State and to the Nation, and I am sure I do not have to tell you about the problems in that industry, especially those of smaller builders and contractors. Nor do I have to tell you about the obstacles facing young or first-time homebuyers or the plight of the very low income who need shelter.

Housing programs are costly and many impact directly upon the credit market. At a time when fiscal restraint and interest rates are of concern, this makes housing programs particularly vulnerable.

I think we all recognize that there are going to be major changes in the housing and community development area. And, I hope we can all work together to devise policies which directly address legitimate needs.

In the 8 years I have been in the Senate, I can't tell you how many different HUD programs I have seen, programs which result in commitments far into the future. I remember one hearing where someone pointed out the Government could build 1 million $30,000 houses—cost and interest rates were lower a few years ago—give them away, and abolish HUD for less money than we were discussing in that one year.

Obviously, we aren't at that point yet, so I hope we can preserve those programs such as UDAG where I believe we have had some success and apply some new and creative thinking to those areas which seem beset with difficulties year after year regardless of the type of approach we try.

Senator GARN. Those same houses now would cost between $50,000 to $60,000 to build.

Senator HUDDLESTON. It would take that much to build a house for anybody to live. A lot has happened since then.

I welcome the Secretary and look forward to the opportunity of asking some questions.

Senator GARN. Thank you very much. The only reason I have had an opportunity to work with the Secretary is due to my past experience with HUD as mayor of Salt Lake City, I wanted to oversee both the agency's authorizations and appropriations.

PRESIDENTIAL COMMISSION

Mr. Secretary, in your opening statement you mentioned the soon-to-be-announced Presidential commission on Federal housing programs and policies. Could you briefly describe the objectives to be addressed, the expected membership, and the time frame in which the commission will make its findings public?

Secretary PIERCE. Yes. The Presidential housing commission is being developed upon my suggestion to the President that such a commission be formed. As a matter of fact, during his campaign, the President referred to such a commission and said that one should be formed; that housing in this Nation had reached such a state that a review of all Federal housing programs and policies was necessary to determine whether any of them should be eliminated or modified, and whether any new ones should be adopted.

That commission is now being formed. It will consist of approximately 20 members. It will last until February 1, 1982, unless it is further continued by the President. It should have its first or interim report ready by October 30 of this year and even before that time members of my staff expect to be working with the commission to get any ideas that they may have that may help us with our fiscal year 1983 budget proposals.

That generally, Mr. Chairman, is the background of the Presidential housing commission and I will answer any other questions that you may want to put with respect to that commission.

COMMISSION REPRESENTATION

Senator **Garn**. You mentioned you would have 20 members, and certainly at this point I am not asking for names, but what would be the makeup of this commission as far as representation from various groups or segments of the community?

Secretary **Pierce**. It should have a broad representation. There should be, for example, builders, people with building experience, developer experience, housing program experience. And when I say housing program experience, that would include State or local officials who have actually engaged in HUD programs. The commission should also include scholars, lawyers, and people in the thrift industry.

ENTERPRISE ZONE CONCEPT IMPACT ON HUD PROGRAMS

Senator **Garn**. The enterprise zone concept has been proposed as a new way to assist cities in revitalizing their economic bases. Although still in the developmental stage, various proposals include incentives such as: Suspending the minimum wage laws, reducing or suspending the property taxes, reducing social security, capital gains, and corporate taxes, accelerating depreciation, extending net operating loss carryovers, and allowing operational cash method accounting for certain small businesses. If we do adopt, at least in principle, some form of the Enterprise Zone Act, what changes to existing HUD programs and appropriations do you believe are necessary or desirable to support the President's enterprise zone program?

Secretary **Pierce**. Well, actually the enterprise zone concept is sort of separate and apart. I would still expect that there would be some form of community development block grant program run by HUD, because even after we develop enterprise zones, at least initially, there will not be more than about 20 or 25 of them. That is a very small number when you think of the country as a whole and the needs of the country as a whole. So I do not think that enterprise zones in and of themselves would cause a tremendous reduction in the HUD budget.

Senator **Garn**. Would you plan to encourage cities to use CDBG grants more in the enterprise zones?

Secretary **Pierce**. Oh, yes. We would encourage that and we would also encourage States to participate in the enterprise zone concept and to contribute, both taxwise and financially. We think it is very important to have the Federal Government, State governments, and the local governments all participate in enterprise zones. It is not just a Federal initiative.

Senator **Garn**. So you would expect that in making changes in some of HUD's existing programs, that effort would be separate from developing the enterprise zone program although you would expect certain programs of HUD to be concentrated in the enterprise zone, such as CDBG?

Secretary **Pierce**. Yes.

PAPERWORK BURDEN

Senator **Garn**. On January 13, 1981, OMB issued its information collection budget for fiscal year 1981, that budget contains targets for 28 departments and agencies that imposed the paperwork burden of over a billion hours on the American public in fiscal year 1980. If every man, woman, and child in Salt Lake City worked 20 hours a day, 365 days a year, they would not be able to complete this paperwork requirement. As part of that budget, OMB established allowances for each of the departments and agencies. These allowances, in aggregate, would result in a decrease of 56 million hours from the levels requested for the agencies for fiscal year 1981 and decrease the total paperwork burden by 48 million hours from the fiscal year 1980 total. For fiscal year 1981, HUD's information collection budget request was 22.4 million hours for 2,557 days. OMB allowed 21.5 million hours, or the same as the fiscal year 1980 level.

What is the Department doing to simplify and eliminate its paperwork burden in order to achieve the target set by OMB?

Secretary PIERCE. Mr. Chairman, we have been working at this and I would like to have Mr. Kliman give you the details.

Mr. KLIMAN. Mr. Chairman, as you stated, the first thing that was done was that OMB did cut us back 5 percent from our request. Since that time, the Department has completed an examination of all departmentwide reporting requirements and that resulted in a significant reduction for 1981.

We have also strengthened the regulation review process in order to determine whether or not any regulations that are issued impose information requirements on the public. In fact, in my current capacity that I have just been assigned, I have found it necessary to nonconcur several times on proposed regulation requirements because of the fact they would increase the paperwork burden; and this is what we are doing: We are currently following the OMB rules. We have designated a single official, the Assistant Secretary for Administration, as the senior official responsible for carrying out all of the requirements. We have targeted certain activities for elimination or consolidation. I could go on and on if you want, or I can supply more information for the record.

Senator GARN. I would appreciate it if you would supply more detailed information for the record.

[The information follows:]

REDUCTION IN PAPERWORK BURDEN

The Department is presently in the data loading phase of a new subsystem to the reports and data inventory control system—RADICS. The RADICS, which became operational in 1979, is a repository of information about reporting and data collection by the Department. The new subsystem has been designed as a tool for aiding program managers responsible for paperwork reduction. It allows the user to store information associated with the information collection budget—ICB—and to perform some analysis on this information. In addition, the subsystem is capable of generating activity reports that will be useful in the management of the Department's ICB allowance.

The Department is also continuing an earlier initiative to reduce the number of copies of forms required from the public. After extensive review and analysis of the costs and benefits to the Government and the public, a single-copy-only policy for reporting is in place. This policy relieves the public of the burden of duplicating reporting forms. Public use forms excluded from this policy are those that require complex attachments, such as maps, photographs, plat plans, et cetera, and those that require more than one original signature. The Department provides carbonless or multiple carbon set forms for all other public use forms requiring more than one copy.

Finally, the Under Secretary has initiated a program to perform zero-based reviews of existing regulations. These reviews will include stringent examinations of the information requirements imposed by the regulations.

15-PERCENT REDUCTION IN DATA REQUIREMENTS

Senator GARN. Can you give me an estimate for your information collection budget for fiscal year 1982?

Mr. KLIMAN. We are just now sending out a call for the information collection requirement and I am not yet ready to provide it. The OMB has declared they wanted a 15-percent reduction for 1982 from the 1981 amount and, with the reductions in program levels that we have proposed in this budget, we do expect to accomplish that. We will be reporting on that.

Senator GARN. Do you feel that it may be a difficult task to reduce your information collection budget by 15 percent?

Mr. KLIMAN. It may very well be. We are just now getting into the matter, putting out our call for the information collection estimates right now. I can't tell you exactly how difficult it will be. All I can tell you is that we are going to be working at it.

Senator GARN. If you need any help, let me know. From my years as dealing with HUD as a mayor, I can give you several suggestions as to place's where you could make appropriate reductions. In fact, I would think that a reduction of 15 percent or more would not be that difficult to make.

Mr. KLIMAN. Yes, sir.

Senator GARN. If HUD was to make these reductions, the Secretary could go down as the great hero of recipients of HUD services since he was able to reduce the information burden on the public. I would like to have Sam have this distinction when he leaves as HUD's Secretary.

1981 PAY SUPPLEMENTAL

As you know, the House only approved $6 million of your fiscal year 1981 pay supplemental. We provided the $12,582,000 as requested. I certainly believe that economies can be found in HUD's operation. I intend to work with you to find them. However, I also believe that if you are going to ask someone to do a job, you have to give them resources.

What would be the effect on your operation if the House recommendation was accepted rather than what was approved by this committee?

Secretary PIERCE. It would be more difficult. We, hopefully, will get what your committee has approved.

Senator GARN. Could you operate at the House level?

Secretary PIERCE. We would have to. It would be difficult but we would have to.

Senator GARN. Senator Huddleston.

ENTERPRISE ZONE CONCEPT

Senator HUDDLESTON. Thank you, Mr. Chairman. Going back just for a moment to the enterprise zone concept, would you expect that this program would be operated through the States or directly with the localities?

Secretary PIERCE. Actually that concept is being kicked around by its sponsors now, by Congressman Kemp and Congressman Garcia. From the administration's point of view, let me put it that way, we would like very much for the States to be sort of the central agency for enterprise zones. In other words, they would take all the applications for enterprise zones within their particular State and then work out exactly where the enterprise zone should be and we would also expect them to participate in it, both from a money point of view and from a management point of view. Actually, we see enterprise zones as a cooperative effort among the three governments—the Federal, State, and local governments. It is really new federalism in action.

Senator HUDDLESTON. So that decision has not been——

Secretary PIERCE. It is not a clear-cut decision at the moment.

INTEREST RATE OUTLOOK

Senator HUDDLESTON. Mr. Secretary, the single item having the most devastating effect on the housing industry is high interest. And I don't think anybody believes the industry can recover until interest rates come down or some special assistance is focused on it.

What is the current interest rate outlook as you see it?

Secretary PIERCE. Actually, I believe that for the next year interest rates will remain high. I think that until we are able to get inflation under control, they will continue to be high. I think we have to look out 2 years or 3 years to a point where interest rates will be down sufficiently for housing to be affordable for most middle-class people in the United States.

Senator HUDDLESTON. With the passage of 2 more years, I don't know who is going to be building those houses for us.

Secretary PIERCE. It is a troublesome problem. There is no question about it. We are in a time of economic catastrophe and crisis. I will say that unless we get the inflationary spiral reversed, unless we do that, we just don't have a prayer.

HUD RELATIONSHIP WITH FEDERAL RESERVE BOARD

Senator HUDDLESTON. Does your Department have any input with the Federal Reserve on the interest rate question?

Secretary PIERCE. No, not with the Federal Reserve Board, we do not. Through the White House and through Secretary Regan and Murray Weidenbaum, we make suggestions on certain matters and in that way we have an indirect input. I, for example, have not had any meetings with Paul Volcker or other members of the Federal Reserve Board.

ACCEPTABLE INTEREST RATE LEVEL

Senator HUDDLESTON. Are you developing any kind of a contingency plan? Have you determined what level of interest rates would be necessary in order to see some recovery in the industry?

Secretary PIERCE. I have a good idea. We would have to just about cut the present interest rate, not quite in half, but down a great deal. We would have to get it down, I would think to about 9 percent to see real substantial recovery.

Senator HUDDLESTON. If this doesn't happen, are there any suggestions on what your department might do to try to keep some part of the industry intact at least so that when conditions are right again there would be an infrastructure there that can move ahead on construction of houses.

Secretary PIERCE. That is one of the things that we intend to discuss with the Presidential commission. There are certain ideas that are floating around, but we have not reached any final conclusion as yet. We hope to have our thoughts reviewed by the commission and from our joint thinking, from the people in my Department and from the commission, we hope to come up with some ideas that will help the situation.

Senator HUDDLESTON. That is still a little far in the future.

Secretary PIERCE. It is not really too far. We should be coming up with some ideas by the end of this year. That is not really too far considering the problem we have.

Senator HUDDLESTON. It is a long time for a fellow that is trying to make out on 20 percent interest.

Secretary PIERCE. Believe me, I well understand it and sympathize with it. This situation took a long time to create and it is going to take a little time to solve.

SECTION 235 PROGRAM

Senator HUDDLESTON. Last year Congress appropriated an additional $70 million for the section 235 program. Has all of that money been allocated?

Secretary PIERCE. No, it has not all been allocated as yet. But it will be shortly, I understand.

Senator HUDDLESTON. Some areas will not be able to utilize their allocations unless the mortgage limits are increased. And I gather that the House committee had some strong feelings about that matter.

What is the likelihood of increasing those limits under the present circumstances?

Secretary PIERCE. Well, actually, I would say that there is a good chance that the mortgage limits will be increased.

Senator HUDDLESTON. Do you expect that the current holders of these allocations will be able to utilize their funds?

Secretary PIERCE. Yes.

Senator HUDDLESTON. And what would the increase be?

Secretary PIERCE. I will have to ask somebody to get the exact amount. Would you repeat that question.

Senator HUDDLESTON. I am talking about increasing the mortgage limits that are holding down the ability of some areas to allocate their funds. The Secretary has indicated they may be increased and I am wondering when and how much.

Mr. HIPPS. As to when, that would happen after the period for congressional review has expired which would probably be sometime around the 15th of June. When they would appear in the Federal Register, the exact amount of the increase, I would have to provide for the record, but those unit mortgage limits would be raised substantially and make the program workable in the northern tier of States.

[The information follows:]

SECTION 235 MORTGAGE LIMITS

The regulations increasing the section 235 mortgage limits as authorized by the Housing and Community Development Act of 1980 were published for comment in the Federal Register on June 1, 1981 (vol. 46, No. 104, pp. 29259–60). These increased

mortgage limits will apply only to conditional commitments issued or preliminary reservtions approved on or after July 13, 1981. The new limits would increase the maximum mortgage amount from $32,000 to $40,000 for a single-family dwelling unit. In such cases where there are five or more persons who require a minimum of four bedrooms, the limit will be increased from $38,000 to $47,500. The foregoing mortgage limits may be increased by $7,500 in high-cost areas.

POSSIBLE SECTION 235 RESCISSION

Senator HUDDLESTON. There has been some fear that if this is not done reasonably soon and the utilization of 235 funding is continued to be withheld, that that those funds might be rescinded.

Secretary PIERCE. No, I don't think that will happen.

Senator HUDDLESTON. You don't think that is any problem at all?

Secretary PIERCE. No.

Senator HUDDLESTON. What is the current status of the section 235 recapture program?

Secretary PIERCE. As I understand it, that involves a waiver of the 15-day comment on the regulations, and the waiver has been agreed to by the House, but not by the Senate Committee.

MORTGAGE SUBSIDY BOND ACT OF 1980

Senator HUDDLESTON. Mr. Secretary, a number of areas of the country are waiting the regulations on the Mortgage Subsidy Bond Act of 1980. Has HUD been in contact with the Treasury Department regarding these regulations?

Secretary PIERCE. I have not personally; let me ask my staff. Yes, I understand we have ongoing negotiations with the Treasury Department.

Senator HUDDLESTON. So you have had input?

Mr. HIPPS. Yes.

Senator HUDDLESTON. Do you have any idea when those regulations might be issued?

Secretary PIERCE. I do not know off the top of my head.

Senator GARN. Secretary Pierce, could I have you identify who answered "yes" to Senator Huddleston's questions.

Secretary PIERCE. That is Mr. George Hipps.

Senator HUDDLESTON, apparently we do not know when those regulations will become finalized.

UDAG FUNDING

Senator HUDDLESTON. I hope and urge you to move with as much dispatch as possible. There is a lot of uncertainty as to how certain areas might proceed.

The separate UDAG authorization is being eliminated but a $500 million appropriation level is being retained, at least under the Senate authorization bill. Exactly what does this mean?

Secretary PIERCE. It means that UDAG lives when a lot of people wanted it to die.

Senator HUDDLESTON. Do you expect the administration or implementation procedures to change somewhat?

Secretary PIERCE. We are trying to streamline it, make it more simple to apply for, and we are also trying to tighten it. In other words, we are trying to make sure that when we spend Federal money, the money spent is absolutely necessary. That the same thing could not have been done without the expenditure of Federal money. We are trying to make the "but for" test even stronger than it has been in the past. I guess that is the answer.

Senator HUDDLESTON. What about the funding cycle for 1981 and 1982? Is there any assurance it will not be interrupted?

Secretary PIERCE. We would not expect it to be interrupted. However, we have requested certain waivers from the OMB, and from a technical point of view, as I understand it, there could be some trouble in the last quarter. But I am hopeful there will not be, and I do not really expect there to be.

Senator HUDDLESTON. You are proceeding under the assumption at this time there would not be.

Senator GARN. Senator Specter.

FUTURE OF SECTION 8

Senator SPECTER. Thank you, Mr. Chairman.

Mr. Secretary, I would like to start by thanking you for your responses to a number of letters which I have sent to you, especially your very extensive response on May 4.

I was at a meeting in Pittsburgh on Monday of this week with the group of black home developers who expressed concern that section 8 may be in jeopardy. Is there any cause for such concern?

Secretary PIERCE. I would say there is some cause for concern. It is not in jeopardy immediately. There will be section 8 units in 1982. But, actually, section 8 in this day and time doesn't seem to be a real good delivery system.

It is very expensive and, if at all possible, we are going to try to find better ways of doing things. That is one of the reasons we will be working with the commission, and we hope to come up with some new ideas.

WEAKNESSES IN SECTION 8

Senator SPECTER. What do you see the essential weaknesses of section 8 to be?

Secretary PIERCE. Money; cost per unit now is about $7,300. That is very expensive.

Senator SPECTER. When you deal with those two factors, money, and, also, cost, what are the alternatives for improvement?

Secretary PIERCE. That is what we hope to come up with. There are a lot of thoughts going around, housing block grants, vouchers, and others. But we are going to try to see which ones are best and maybe there are some that have not been thought of yet.

Senator SPECTER. How do you deal with the problems of cost?

Secretary PIERCE. That is what we are trying to work on. If I knew the answer we wouldn't need the commission or anything else. I would just come up and tell you right now and I can't.

HUD VIEWS ON CONDOMINIUMS

Senator SPECTER. With the movement in many areas to condominiums, which affect the elderly and, to some extent, poor people, do you see any role for HUD in any action or any planning on the condominium issue?

Secretary PIERCE. No, I don't see any technical role for HUD in the condominium issue. Our present thinking is that if an apartment or other housing unit does not have any subsidized money in it, we should not be involved in the situation at all.

HOMELESS FAMILIES IN PITTSBURGH

Senator SPECTER. Mr. Secretary, the Urban League of Pittsburgh issued a report last winter entitled, "Home Sweet Homeless." The report concluded:

> There were about 3200 families in Pittsburgh that were virtually homeless and forced to migrate from one unit to another with little hope of improving their lifestyle as it related to housing.

Has the HUD counseling assistance program helped with this problem in Pittsburgh or other cities across the country that are experiencing similar problems?

Secretary PIERCE. I am sure it has worked with a number of cities. I am not sure what it has done in Pittsburgh. I could find out and put that in the record for you if you would like, but I do not know off the top of my head.

Senator SPECTER. I would very much appreciate it if your staff could follow up and provide the committee with some additional information.

Secretary PIERCE. We will supply that for the record.

[The information follows:]

HOMELESS PROBLEM IN PITTSBURGH

The housing counseling assistance program has assisted with the homeless problem in Pittsburgh through funding of four HUD-approved counseling agencies in the amount of $229,728 for fiscal year 1979 and $191,400 for fiscal year 1980 for a total of $421,128. For this 2-year period, the Pittsburgh Urban League was awarded $112,500 to counsel clients interested in HUD-related housing programs. Agencies assisted clients in resolving their problems by emphasizing the need for budgeting, improved communications with landlords, better financial relationships with mortgagees, and self-help and preventive techniques. Many families were helped to relocate into suitable subsidized and unsubsidized housing.

Other cities with similar problems have also been assisted through funding of HUD-approved housing counseling agencies. These agencies counsel clients interested in the four main types of counseling—prepurchase, prerental, mortgage default, and comprehensive counseling.

TAX INCENTIVES FOR HOUSING

Senator SPECTER. In your prepared statement, Mr. Pierce, you note that lower interest rates will do more to make homes affordable than any other single item.

What is your thought on the proposal to provide tax-free investment such as S. 701, the savings and loan investment for home mortgages?

Secretary PIERCE. Well, I have been thinking about it, but I have not really reached any final conclusion. I have been giving a lot of thought to a bill that has been sponsored by a young Congressman named Coyne from out in Pittsburgh which would give a tax incentive to young married couples to save money toward the purchase of their first home.

I have been thinking about that and I am probably going to talk to some people at Treasury about it to see what sort of impact it would make. It sounds like a good idea. A number of these are good ideas but we have to cross-check them with the Treasury to make sure that the impact is not so devastating to our budget as to make it unwise to enact such legislation.

Senator SPECTER. Would you consider the principle of tax savings beyond the issue of young married people?

Secretary PIERCE. Yes, I would think about it because it is also a way of helping the thrift institutions which are in very bad condition right now, and the thrift institutions are very important to housing in this country.

SALES TO SQUATTERS

Senator SPECTER. Mr. Pierce, there has been a substantial drive to evict people living in HUD-owned vacant houses in Philadelphia and according to the information provided to me, families in 87 of those units would like to buy them. The squatter issue poses a particular tough kind of a problem in terms of not taking action which encourage people to move into houses without any right at all and yet when we are faced, as we are in Philadelphia, with a great many people who are living in those houses and now would like to remain, it poses a sharp conflict of competing values.

What is your sense of the situation and are there any circumstances under which you could think it appropriate to sell those HUD-owned houses to squatters?

Secretary PIERCE. Well, yes, there are circumstances when HUD-owned houses can and are sold to squatters. I am very interested in homeownership. I think it is a very important thing in this country. And where we have buildings that are abandoned or where they have been returned to HUD and they are not being operated as well as they should, I think it is important to try to give the people an opportunity to purchase such housing if they want to.

I will say this, I would like to go further and say that I am in favor of perhaps giving them some sort of tax incentive or maybe even a direct subsidy to help them purchase such housing.

Senator SPECTER. Do you have any concern that they have arrived in those houses without any claim of right?

Secretary PIERCE. Yes. As a matter of law, naturally, I worry about that, and that would have to be worked out.

Senator SPECTER. You don't think there is too much of a problem on that to encourage others to do likewise, but it is more important to find housing for them once they are there and make some concessions?

Secretary PIERCE. I think some concessions could be made and the law could be satisfied.

TENANT RENT BURDEN

Senator SPECTER. Mr. Secretary, what are the plans for HUD to implement the proposal which would increase tenant payments from 25 to 30 percent of income? When this proposal is implemented, are there any contemplated exceptions, such as undue hardship like heavy medical expenses or other factors to the people in that category?

Secretary PIERCE. Yes, we plan to, as you know, increase the rent payments and we think the amount we ask for is fair under the circumstances. But if there are people who have very serious economic problems, I have a certain amount of discretion, and I can help such people and I would hope that I continue to have such discretion under any new legislation.

Senator SPECTER. Thank you very much, Mr. Secretary. Thank you, Mr. Chairman, for allowing me the opportunity to question the Secretary. I have noted that my time is up. However, I have some additional questions which I will submit for response in the record.

Senator GARN. We will be back to you in 20 minutes, if you would like to stick around.

Senator SPECTER. I would like to, but I can't.

Senator GARN. I understand the problem with your schedule. I thought I was busy when I was a new freshman, but, relatively speaking, I was unemployed by comparison.

WAIVERS ON YEAR-END OBLIGATION LIMITATIONS

Mr. Secretary, section 414 of our fiscal year 1981 Appropriations Act specifies that you may not obligate more than 30 percent from any program or activity during the fourth quarter without an OMB waiver. In your opening statement, you note that you have requested such a waiver for a number of accounts.

Can you tell me what accounts these are and why the waivers were required?

Secretary PIERCE. I would like Mr. Kliman to give you those exact accounts.

Mr. KLIMAN. Yes, sir. Mr. Chairman, we have requested a waiver for the basic subsidized housing production, annual contributions for assisted housing, which is the major account. That account, as you may know, in the past has had the bulk of its activity in the last quarter of the year basically as a result of the processing cycle, which is essentially a 9- to 10-month processing cycle. The bulk of the activity would occur in the last quarter again this year; and we have, therefore, requested a waiver. The same thing holds true with regard to the modernization program, especially with the implementation of the new comprehensive improvement assistance program which was enacted last year. New regulations have been issued, and training is now in progress. A waiver is necessary in order to get that program going.

A waiver has been requested for the community development block grant program because the application cycle in that program has applications coming in just about now or a little earlier in the spring and the processing time of the applications for this program brings the bulk of the approvals into the last quarter of the fiscal year. In addition, as the Secretary indicated earlier, we have requested a waiver for the UDAG program not because we would have more than 30 percent in the last quarter, but, because of the announcement cycle, we would have more than 15 percent of the obligations in 1 month of the last quarter. As you know, section 414 has two limitations. In addition to the 30-percent limit on the last quarter, there is a limitation of not more than 15 percent in any 1 month of the last quarter. A waiver has also been requested for the section 202 program, the housing for the elderly or handicapped program, because that program has, consistent with the section 8 program, the bulk of its obligations in the last quarter of the fiscal year.

Those are the major programs of the Department for which we have requested waivers. There are a few other smaller programs that are involved which I do not recall at the moment, and I will put those in the record.

[The information follows:]

HUD ACCOUNTS FOR WHICH WAIVERS HAVE BEEN REQUESTED

Waivers for last quarter—30 percent limitation: Annual contributions for assisted housing; public housing modernization; public housing operating subsidies; housing for the elderly or handicapped; community development block grants; research and technology; and fair housing assistance program.

Waivers for monthly limitation only—15 percent limitation: Urban development action grants.

WAIVER FOR MODERNIZATION

Senator GARN. If Congress does approve the additional $300 million for PHA modernization, would you apply for a waiver and do you have any assurance that OMB would grant the waiver if you did?

Secretary PIERCE. We would probably apply for the waiver and I do believe OMB would approve the waiver. I have talked to Stockman a bit about this. I think he would approve it.

ASSISTED HOUSING RECAPTURES

Senator GARN. Obligations for section 8 and the public housing programs are based on notification and reservation letters. These documents advise project sponsors that their projects have tentatively been selected for funding. Because notification and reservation letters are tentative, using them as the basis for obligations magnifies HUD's assisted housing activities. This method of determining obligations thus caused HUD to exaggerate its assisted housing efforts for fiscal 1976 through 1978 by $7 billion.

During fiscal year 1981, how many assisted housing dollars were deobligated?

Mr. KLIMAN. Thus far, this fiscal year, there have been recaptures amounting to approximately $2 billion. The budget justifications that have been presented to you show the total gross activity expected for the annual contribution of subsidized housing programs this year. This is consistent with our agreement with GAO last year that we would show the full gross activity. The estimate in the budget is $5 billion.

VALIDITY OF OBLIGATIONS

Senator GARN. Why weren't the original obligations valid?

Mr. KLIMAN. We disagree with the allegation that the original obligations were not valid. These were valid obligations. There were some technical difficulties with some of the documents which have now been corrected. But there were no invalid obligations. What simply happened, as part of the processing cycle, was that some of the projects were canceled for one reason or another, such as inability to get financing. The housing folk can go into more detail, but the obligations were valid.

1982 RECAPTURE ESTIMATE

Senator GARN. Do you anticipate further deobligations in fiscal 1982?

Mr. KLIMAN. Yes, sir, and the budget so reflects.

Senator GARN. How much do you anticipate?

Mr. KLIMAN. $5 billion is estimated.

OBLIGATING CONSISTENCY WITH OTHER PROGRAMS

Senator GARN. Has HUD altered its method of obligating funds?

Mr. KLIMAN. There have been some technical changes made in the documents to correct some of the deficiencies that GAO picked up last year, but there has been no change in the process.

Senator GARN. Is the process consistent with other agencies and other HUD programs?

Mr. KLIMAN. To my knowledge, Mr. Chairman, there is no other program in the Federal Government exactly like the subsidized housing program. The process is consistent with the program requirements and the legalities of the obligation have been ruled on by our General Counsel, so that we have no particular problem there as far as legality. In terms of consistency with other HUD programs, it is consistent with the practices that have been followed in HUD programs for as long as I have been in HUD.

CONTRACT AUTHORITY REDUCTIONS

Senator GARN. Section 412 of Public Law 96–526 provided for the reduction of budget authority contained in the bill by an average of 2 percent. In compliance with this provision, OMB reduced your assisted housing account by $707,733,000, or approximately 2.3 percent. In addition, the contract authority was reduced by $34,557,000.

I understand that the contract authority reduction was made in order to match the reduction in budget authority, however the bill does not provide for reductions in contract authority.

Under what authority did you reduce the contract authority? Did you get a legal opinion on this action before it was taken?

Secretary PIERCE. I don't think we got a written legal opinion, but we did get advice from OMB and its Counsel, as well as our own General Counsel.

Mr. KLIMAN. That is correct.

CONTINUATION OF REHABILITATION LOAN PROGRAM

Senator GARN. As you know, both the House and the Senate rescinded the $110.8 million in the rehabilitation loan fund as requested. However, both bodies restructured the request so that 312 would be continued as a revolving fund.

What priorities would you recommend for a program that has been structured in this manner?

Secretary PIERCE. 312?

Senator GARN. Yes.

Secretary PIERCE. Well, as far as 312 is concerned, Mr. Chairman, I do not think that it is a very good program given the need for my department to reduce its budget. We think it is staff-intensive, that we have had a lot of trouble with loan defaults, and the amount of interest that is paid on these rehabilitation loans is just far too small, it is only about 3 percent. For those reasons, we think that this program should be set aside when we have the problem of reducing our budget, and it is also being folded into the community development block grant program so that if a particular locality wants to continue 312, it can with its block grant money.

Senator GARN. I understand your feeling, but my question is really in the light of the restructuring by both the House and the Senate to continue the revolving fund. Do you have any ideas on how you are going to use that restructuring or are you going to continue to try and have the program removed and ignore the wishes of Congress?

Secretary PIERCE. No, no. We will do as we are told. And we will work it out and my people are already working on ways of doing it.

USE OF CDBG FUNDS FOR SECTION 312 ACTIVITIES

Senator GARN. How will the program structure affect your plans for using CDBG to fund activities that were formally covered by section 312?

Secretary PIERCE. I really don't think it will affect it at all. What I think it means is that the localities will not have to use any of their block grant money, or very little of their block grant money, for 312 activity.

INCREASED USE OF EXISTING STOCK

Senator GARN. Just a side note, I understand your feelings with the section 312 program and yet, as fiscally conservative as I have been every year in the Banking Committee, I was always the one that pushed for more funding. My experience with the program has been different than other cities throughout the country. That is always one of the problems with national programs and national guidelines; some cities can handle programs well and others don't.

In Salt Lake City there were examples of where we were able to put a lot more people into housing using rehab funds rather than new construction funds. Like any program, you can find good and bad examples of the rehab program throughout the country. However, we had a good experience with the program in my community through making available existing housing stock to people who normally could not afford a home. A lot of the older homes in my community were far better built and could be rehabilitated without spending a great deal of money. Therefore, we were able to make good housing available at relatively low costs rather than spending large sums on new housing.

I hope we don't abandon the concept of utilizing existing housing stock, particularly in light of new construction costs.

Secretary PIERCE. We agree with you wholeheartedly on that. As a matter of fact, in 1982, we are shifting our mix to 55–45 with the bigger emphasis on rehabilitated housing.

We think that is a very good idea and we believe that with the cost of housing the way it is, we get more housing for needy people by using a lot of the existing stock.

UNIT MIX AT LOCAL LEVEL

Senator GARN. I have trouble with mixes of housing. We have argued in the Banking Committee and the House over what the housing mix should be. It is my opinion that no matter what mix you pick, it is going to be wrong, and I say that in the sense that for some communities it may fit, for others it will not. But when you set a national mix policy, there are simply some communities with very, very low vacancy rates, and they need new construction, whereas others have large vacancy rates and would prefer more. I have always argued for more local flexibility in determining housing mixes.

Last year, after weeks in conference on the housing authorization bill, we got so frustrated dealing with the different proposals for the mix, we decided on a 50–50 split. I don't know how you came up with your 55–45 mix. I don't think it will be satisfactory for all of the communities in this country.

Secretary PIERCE. I know that, and I agree with that. What we are trying to do is look into the various localities and make sure that we do what is necessary for a particular locality. The 55–45 mix is a national aim, but we know full well there are some communities where there is just no existing stock available. In those communities, there is going to have to be new housing or nothing. And we intend to build where we have to.

Senator GARN. Senator Huddleston.

Senator HUDDLESTON. Thank you, Mr. Chairman, I might caution you not to reveal too much about how laws are made. They say there are two things you should never see made, laws and sausages.

STATUS OF WAIVER REQUESTS

Senator HUDDLESTON. Mr. Secretary, a number of questions already have been asked about the section 8 program. I have some others, most of them I will submit for the record.

But under the provisions enacted by this committee, no more than 30 percent of the total fiscal 1981 contract authority can be allocated in the last quarter of this fiscal year. Do you expect this to be a problem?

Secretary PIERCE. I hope it is not a problem, but it could be a problem.

Senator HUDDLESTON. If this becomes a problem because of the delay in notifying the field offices relative to the allocation amount available for new and substantially rehabilitated projects, would you request that OMB waive this restriction?

Secretary PIERCE. Yes, we would request that they do it. I don't know whether they will.

Senator HUDDLESTON. Have you had any discussions with them up to this point?

Secretary PIERCE. Yes, we have had some discussions, mainly our discussions have been sort of pushing them to act. They said, "We have it under consideration." They have not committed themselves one way or the other.

FINANCIAL ADJUSTMENT FACTOR

Senator HUDDLESTON. Tough outfit to deal with.

What are the Department's plans for reinstituting special financial help in the form of a financial adjustment factor?

Secretary PIERCE. Our plans are that we want to have a financial adjustment factor. We have gotten a lot of opposition to it, but we would like to have that.

Senator HUDDLESTON. Would it apply to all section 8 projects whether they are in the pipeline now or new projects?

Secretary PIERCE. It would apply to the section 8 projects that are in the pipeline, not to the new.

Senator HUDDLESTON. Not to the new. Do you have any idea when the issue might be resolved?

Secretary PIERCE. Well, I have had people in my office constantly working on it. Hopefully it will be resolved very shortly.

Senator HUDDLESTON. Without the FAF, do you believe that it is possible to meet the new construction of 44,750 units and substantial rehabilitation of 10,000 unit reservations projected in the fiscal 1982 budget?

Secretary PIERCE. No, I think it would be very difficult without the FAF.

FUTURE STATUS OF SECTION 8

Senator HUDDLESTON. If we look at the budget request, the reduction in unit numbers and the proposals to end tandem financing, if you look at the question of whether or not there will be a financial adjustment factor, it seems to me the issue really becomes whether or not there will be a section 8 program, especially insofar as new units are concerned. We have already discussed the expensiveness of section 8, but if the effect of what we are doing is to just gut section 8, shouldn't we meet that issue head on and make a determination as to whether we are going to continue that program?

Secretary PIERCE. No, I don't think so. Not at this point in any event. I think there are other ways of financing the 11(b) method and through the State housing finance agencies.

TANDEM PIPELINE

Senator HUDDLESTON. To get into another subject, the Reagan budget requested $3.6 billion in fiscal 1982 to cover projects which had reached the conditional commitment stage by February 14, 1981. It has since been suggested that perhaps $2 billion would be sufficient.

What is HUD's current position on this?

Secretary PIERCE. Our position is that we cannot do that job with $2 billion. What we have said is that we would like to fund those projects in the pipeline that are anywhere between an application for conditional commitment and a firm commitment.

Now, in order to do that, we will need the $3.6 billion. We cannot do it for less. If the Congress, and it looks as though they are, said that you can only have $2 billion for this purpose, we are then going to have to change that pipeline. And, in so doing, many contractors are going to get hurt and hurt badly.

Senator Huddleston. Do you have any estimate of the number of projects that are already in the pipeline, how many of these are section 8 projects?

Secretary Pierce. Yes, I can get that for you. I don't have it off the top of my head, but we have that kind of information.

Senator Huddleston. Submit that for the record.

[The information follows:]

Section 8 Tandem Pipeline

The number of projects, units, and mortgage amounts in the GNMA tandem pipeline as of February 14, 1981, follows:

		Units assisted			
	Projects	Section 8	Nonsection 8	Total	Mortgage amount (In millions)
Section 8:					
Partially assisted	137	5,484	16,276	21,760	$973.1
100-percent assisted	437	29,475	NA	29,475	1,184.1
Subtotal	574	34,959	16,276	51,235	2,157.2
Targeted tandem	294	NA	41.482	41,482	1,309.9
Total, eligible pipeline	868	34,959	57,758	92,717	[1] 3,467.1

[1] Reserves for increases are not included.

SHORTFALL IN PFS FUNDING

Senator Huddleston. Public housing authorities have received only about 85.5 percent of eligible amounts under the PFS this year due to increased utility costs. The sum of $100 million was included in the House and Senate versions of the supplemental to offset utility costs. But this won't come close to the actual need which is now conservatively estimated at $225 million by HUD's staff.

How do you propose that public housing authorities make up the difference?

Secretary Pierce. Well, hopefully the PHA's will get some money from the fuel aid money that HHS grants to the States. For 1981, we have gotten HHS to change its regulations so that all of the public housing authorities will be eligible for part of that money in 1981. The difficulty is we hope that it is not all spent. That is our problem. But we got them to change the regulations for that year.

As far as 1982 is concerned, we do not have any change because that has become part of a block grant and OMB does not want to have HHS change its regulations with respect to that year to allow part of the fuel aid money to go to public housing authorities.

As I understand it, it is a voluntary thing with the States. They can give some of the money to the public housing authorities, but they do not have to. It has now become a matter of politics so that the public housing authorities and the cities will have to petition the States to try to get some of that money. We will need the $100 million that the House kindly put in our budget and we will need the Senate to go along with that, too. Between those two sources, we hope to try to make do, but it is a tough situation.

Senator HUDDLESTON. Our figures indicate that only about $49 million of the low income energy assistance program, under the Home Energy Assistance Act, have gone into housing authorities and I don't know whether HUD can do anything to help stimulate that or not.

Secretary PIERCE. We are trying. We hope to push that amount up a little bit.

1982 OPERATING SUBSIDY REQUIREMENTS

Senator HUDDLESTON. You requested $1.2 billion for public housing operating subsidies in fiscal 1982. Some observers are already saying that is at least $200 million short of requirements.

How did you arrive at that estimate? And what assumptions did you make regarding the utility costs?

Secretary PIERCE. I can't remember the exact assumptions we made on utility costs. I know we went through the whole thing and we did come out with a number higher than that. This is a bargained for number that resulted from our talks with OMB. The amount that we wanted was a good deal more than that.

Senator HUDDLESTON. I think you fellows work with OMB the way Senator Garn indicated we do in conference, you start out with what the need really is and then compromise in between.

Secretary PIERCE. That happens. That is a human process. We started off with what we thought were good assumptions and they were bargained down. And this number is not the number we wanted.

Senator HUDDLESTON. I understand how the process works.

Senator GARN. The difference is, they can do their bargaining privately and we have to do it in public.

FUTURE OF MORTGAGE INSURANCE PROGRAMS

Senator HUDDLESTON. There have been continuing rumors about the future of the Federal Housing Administration's unsubsidized mortgage insurance program. Can you give us a yes or no as to whether the Department intends to continue this program?

Secretary PIERCE. You mean FHA? We intend to continue it.

Senator HUDDLESTON. Do you anticipate any efforts to impose limitations on the use of the program or the types of mortgages that might qualify?

Secretary PIERCE. Yes, we may do that. We are going to look at that program and study it and we may put some limitations on it.

HUD ROLE IN RURAL HOUSING

Senator HUDDLESTON. Let me ask you just a final question. Mr. Secretary, you related your views about rural areas. Rural areas and small cities have traditionally felt slighted by HUD. Do you have any initiatives directed at insuring that rural areas can compete on an equitable basis for housing and community development funds?

Secretary PIERCE. No new initiatives. But I hope that maybe rural housing will be put into HUD and we will take a greater interest in rural housing than we have in the past. That is my hope for the future.

Senator HUDDLESTON. I was told that in Georgia, speaking to a group, you indicated that you didn't think HUD should be involved in rural areas. That doesn't sound like the position you just indicated there.

Secretary PIERCE. I think that somebody had to misunderstand me if they made that quote. I think that what we were talking about at that time were enterprise zones and I said that the first enterprise zones should go to the big, economically distressed city areas and not to the rural areas. That doesn't mean that I am against the rural areas and do not want to see progress made in those areas or help given to them. But the point is, we were talking about a specific subject and I do believe that the enterprize zone concept is really fashioned for the large cities.

Senator HUDDLESTON. Thank you for clarifying that.

I know that in Kentucky several section 8 projects have been the result of HUD and Farmers Home Administration cooperation. Do you expect such joint efforts to continue?

Secretary PIERCE. Yes; we expect to cooperate with the Department of Agriculture in this area. But I hope that maybe when the commission looks at this whole thing, they might put housing in one place and that would give us really a greater interest and a greater incentive to get into rural matters more.

Senator HUDDLESTON. Thank you, Mr. Secretary. I have some more questions to submit for the record.

UDAG OUTLAYS

Senator GARN. Mr. Secretary, as you know, the Banking Committee has recommended a $500 million level for the UDAG program and made certain changes in the program's structure.

Although you did not request the continuation of UDAG as a separate program during fiscal 1982, your budget justification indicates an outlay level of $590 million from prior-year commitments.

What would you estimate this level to be under the Senate proposal?

Secretary PIERCE. The Senate proposal is for $500 million, is that right?

Senator GARN. Yes.

Secretary PIERCE. I would estimate that it would be very close to the $500 million. I don't know the number exactly. But it would be very close. We would expect to use all of the money.

Senator GARN. You would expect to spend most of it?

Secretary PIERCE. Yes.

Senator GARN. Would you require that applications pending at the Department be resubmitted for the fiscal year 1982 program?

Secretary PIERCE. No.

OBLIGATION OF UDAG FUNDS

Senator GARN. I understand that you have an unobligated UDAG balance of $268.9 million. What plans do you have to obligate these funds?

Secretary PIERCE. We plan to probably spend most of that. I don't know the exact amount. I can't give you a figure. But our plan is to try to utilize it all. Provided we don't have difficulty with OMB, we plan to spend just about all of it.

MERGER OF UDAG INTO CDBG

Senator GARN. How will your proposal to merge UDAG into CDBG save the Government money, other than by reducing the combined appropriation request?

Secretary PIERCE. Actually, I do not think it will save the Government very much money because the UDAG program will be operating just about the way it is now. It is just a way of doing it that was acceptable, I guess, to all parties. Again, this was a result of a bargaining mechanism that actually was decided by three sides—by the OMB, ourselves, and the White House. And the President himself took a part in this. So, it is what came out. However, I really don't think it will save the Government a lot of money. We are going to have relatively the same staff and we are going to do relatively the same thing that we are doing now with respect to UDAG. The biggest savings resulted from cutting the programs.

Senator GARN. When you say "all parties," certainly the mayors were one of those "all parties" that were opposed to the consolidation. I am a little bit puzzled with your statement just now since initially the administration's justification for merging the two programs was to save money and reduce program requirements. At the time, the administration presented this proposal, most of the mayors across the country responded that they did not feel the consolidation would save money.

I guess my question is, if the two programs are going to continue to operate in the same manner as they have in the past, what is the purpose of the consolidation?

Secretary PIERCE. Well, I think what you accomplish really is by having them together you can simplify the delivery system to some extent and maybe it could be argued that would reduce the cost of having these programs.

Frankly, I don't see that much reduction myself and I am trying to be as frank as I can.

IMPACT OF MERGER ON CONSTITUENT GROUPS

Senator GARN. You are being frank and honest, there is no doubt about that.

In fact, I am one who is normally for consolidation and simplification of programs, if there is a good reason. In this particular instance, I don't think there is a reason for this consolidation. In fact, I think we may have stirred unnecessary trouble with the groups who are served by these two programs.

Secretary PIERCE. But, actually, I don't see how it hurts the constitutent groups either.

Senator GARN. The groups think the proposal will hurt them.

Secretary PIERCE. They are wrong. It really doesn't hurt them at all. And it could, as I say, somewhere down the line, be helpful because by having the two programs together, we may be able to consolidate certain things and that may be helpful.

Senator GARN. The administration has got to do a better job of convincing these groups, because they have raised concern in hearings on this proposal.

Secretary PIERCE. I think we ought to try to convince them, because it is not hurting them at all. I can't see their argument. By having them together we may be able to work out some modest savings, and certain simplifications, and so forth. Administratively, it could be easier and I don't really think it hurts them at all.

Senator GARN. Senator Sasser.

HEADQUARTERS STAFF REDUCTIONS

Senator SASSER. Mr. Chairman, Mr. Secretary, several years ago, the Washington media reported that there were a number of HUD employees here in Washington with little or nothing to do and they were getting no direction from their supervisors.

Looking at personnel reductions, have you examined closely the Washington headquarters here to determine whether cuts can be made there and what percent of your fiscal year 1982 reductions are going to be made in the headquarters office here in Washington?

Secretary PIERCE. I would have to have Mr. Kliman answer. I do not have the numbers at my fingertips, but we can get them.

Mr. KLIMAN. I don't have them exactly either, but there is a substantial reduction in Washington, Senator. As the Secretary had indicated previously in correspondence to the chairman, we are eliminating one entire organization in Washington. The entire staff reduction is being done in accordance with the Department's workload measurement system, so that the reduced workload is reflected with reduced staff. In direct answer to your question, there was, indeed, a close examination of the Washington headquarters; and the Secretary made some determinations on rather substantial reductions in Washington. I will be more than happy to provide that detail for the record.

Senator SASSER. We would be delighted to receive it.

[The information follows:]

HEADQUARTERS STAFF REDUCTIONS

The following table details the reductions in permanent full-time staffing for headquarters organizations:

	Fiscal year—		Change (1982 vs. 1981)
	1981	1982	
Housing programs	746	730	−16
Government National Mortgage Association	55	58	+3
Community planning and development	366	347	−19
New Community Development Corporation	54	54	
Neighborhoods, voluntary associations, and consumer protection	118	118	
Policy development and research	184	180	−4
Fair housing and equal opportunity	123	123	
Departmental management	159	159	
Office of General Counsel	221	221	
Office of Inspector General	115	123	+8
Administration and staff services	1,240	1,196	−44
Working capital fund	420	415	−5
Total	3,801	3,724	−77

The increase of three positions for Government National Mortgage Association is for increased workload, primarily in the mortgage-backed securities program. The eight-position increase for the Office of Inspector General is necessary to carry out the Inspector General Act of 1978, other legislative requirements, and congressional and OMB directives. The remaining staffing reductions reflect the impact of reduced program levels and other staffing constraints.

The reduction of 77 positions at headquarters is 29.8 percent of the total 258-position reduction proposed for the Department for fiscal year 1982. The reductions reflect a 1.6-percent reduction for field staff and a 2-percent reduction for headquarters staff from the fiscal year 1981 levels.

FIELD STAFF REDUCTIONS

Senator SASSER. Another question that concerns me is the reduction in force in the field office staffs going forward too quickly and too soon. Reduction in program dollars doesn't necessarily reduce the workload of the field offices, which in my State were never adequately staffed in the first place.

Now, deregulation would reduce workloads more significantly than program reduction. When does the Department expect to begin implementing deregulation and would it not be better to reduce the field office staffs as the deregulation comes on rather than having significant reduction in force in the field offices now?

Secretary PIERCE. We are working on deregulation right now and as a result of that we would expect to have a position on what you are talking about sometime later. I can't give you an exact date because I can't tell exactly when our deregulation will be completed to the point where we can actually reduce staff because of it. But I will say this, that field offices vary and the needs vary and what we are trying to do is study those needs. Some offices, I can tell you very frankly, can be reduced now with the workloads that they are carrying. We are looking at it on a region-by-region basis. Some offices will be reduced and some will remain pretty much at current strength.

IMPACT OF 701 REDUCTIONS ON AREAWIDE PLANNING

Senator SASSER. To move on to another subject here. The 701 comprehensive planning progam is being eliminated in fiscal year 1982. Now, for States and localities which received direct grants, there may be some opportunity to pick up some of these activities from other resources. But areawide planning agencies face a much more uncertain future.

It seems to me that at a time when Federal assistance is being reduced and reduced rather dramatically, it appears to be particularly important to have areawide planning to avoid duplication of effort and to promote sharing of the facilities and services which are available.

Is HUD concerned now about areawide planning and do you have any means or proposals to encouraging areawide activities?

Secretary PIERCE. Well, we would expect that the localities and States that support areawide planning would continue to do so. We would not fund it, but we would expect them to continue it if they felt it was necessary and it was doing a good job in their areas.

I do not have any particular plans for another 701 or something to take its place at this point.

Senator Sasser. Thank you, Mr. Secretary. No further questions, Mr. Chairman.

Senator GARN. Do you have any additional questions, Senator Huddleston?

Senator HUDDLESTON. Not this morning.

Senator GARN. Mr. Secretary, I have approximately 25 additional pages of questions.

Secretary PIERCE. Good Lord.

Senator GARN. Since the subcommittee will continue to hear testimony from the Department tomorrow, I will ask some of these questions tomorrow. However, the questions which are more technical, I will submit to you for response in the record. In addition, there may be other members of the subcommittee who were not able to be here this morning who may be here tomorrow or who may want to submit questions for the record. We do want to have as much information as possible so that we can make our determination for your fiscal year 1982 budget request.

Do you have any additional comments at this time?

Secretary PIERCE. I have no additional comments at this time.

SUBCOMMITTEE RECESS

Senator GARN. The subcommittee will stand in recess until May 21, 1981, at 9:30 a.m., when we will hear testimony from the Department of Housing and Urban Development and Neighborhood Reinvestment Corporation.

[Whereupon, at 11 a.m. Wednesday, May 20, the subcommittee was recessed, to reconvene at 9:30 a.m. Thursday, May 21.]

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT-INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1982

THURSDAY, MAY 21, 1981

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 9:30 a.m. in room 1224, Everett McKinley Dirksen Senate Office Building, Hon. Jake Garn (chairman) presiding.

Present: Senators Garn and Huddleston.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

STATEMENT OF E. S. SAVAS, ASSISTANT SECRETARY FOR POLICY DEVELOPMENT AND RESEARCH

ACCOMPANIED BY:

PHILIP D. WINN, ASSISTANT SECRETARY FOR HOUSING—FEDERAL HOUSING COMMISSIONER

S. LEIGH CURRY, DEPUTY GENERAL COUNSEL

R. FREDERICK TAYLOR, EXECUTIVE VICE PRESIDENT, GOVERNMENT NATIONAL MORTGAGE ASSOCIATION

DONALD DODGE, ACTING GENERAL DEPUTY ASSISTANT SECRETARY FOR COMMUNITY PLANNING AND DEVELOPMENT

PETER KAPLAN, DEPUTY ASSISTANT SECRETARY FOR OPERATIONS AND MANAGEMENT, OFFICE OF FAIR HOUSING AND EQUAL OPPORTUNITY

WILLIAM O. ANDERSON, GENERAL DEPUTY ASSISTANT SECRETARY FOR NEIGHBORHOODS, VOLUNTARY ASSOCIATIONS AND CONSUMER PROTECTION

JOHN CLINTON, DIRECTOR, OFFICE OF PROGRAM POLICY AND MANAGEMENT, NEW COMMUNITY DEVELOPMENT CORPORATION

ALBERT J. KLIMAN, ACTING DEPUTY ASSISTANT SECRETARY FOR ADMINISTRATION

PAUL A. ADAMS, DEPUTY INSPECTOR GENERAL

HERBERT C. PERSIL, ACTING DEPARTMENTAL BUDGET OFFICER

Senator GARN. The subcommittee will come to order.

Gentlemen, I am happy to welcome you, from the first row to the head table, today. If you have any opening statements, we would be happy to hear them.

Mr. SAVAS. Good morning, Mr. Chairman. We have no opening statements. We will be happy to proceed with questions and answers.

Senator GARN. All right.

IMPACT OF REDUCTIONS ON RESEARCH AND TECHNOLOGY

As you know, both the House and Senate rescinded $5 million from your fiscal year 1981 research and technology program which you had proposed for deferral. What research and technology activities will be affected by the budget rescission in 1981 and lower budget levels in 1982?

Mr. SAVAS. We have already taken action to remove from the pipeline, or from the planned pipeline, some research projects which, in our judgment, were not sufficiently important or sufficiently timely or sufficiently in keeping with the mood of the administration in terms of reducing costs. Those cutbacks were made in expectation of our reduced budget. Several specific projects were cut. I can identify those if you are interested. We believe within the requested $35 million appropriation we can continue to do work and refocus our direction to help achieve the objectives of the Department.

Senator GARN. How will PDR's research priorities change as a result of lack of growth in the research and technology appropriation?

Mr. SAVAS. In two ways. One, we are trying to reduce the average maturity of our research portfolio, if I may use that terminology, that is, reprograming our efforts toward projects which are likely to yield more returns in the short term than the long term. The second direction is aiming at a better understanding and improving the efficiency, effectiveness, and equity of the various housing programs. And, in that connection, we will be working closely with the to be announced Presidential Commission on Housing and assisting them, however possible, to focus on fundamental issues of how can we improve our housing programs and how can we improve delivery of services.

COST OF ANNUAL HOUSING SURVEY

Senator GARN. What opportunities exist to reduce the cost of the annual housing survey which now commands about one-third of the budget for research?

Mr. SAVAS. We have already assiduously been examining ways to reduce the cost of that survey without seriously impairing its usefulness. As you know, that survey provides the most fundamental kind of data which is used by the Congress, by the private sector, by builders, by bankers, by thrift institutions, as well as by OMB and HUD. For 1982, we will have already reduced about $2 million in the cost of that, losing what, in our judgment, is always the marginally useful data, yet saving $2 million. For the longer term, we also have underway and have initiated a major examination to see what kind of large cuts can be made in that, including the possibility of going to something less than an annual housing survey. If one looks at the kinds of policy decisions and policy actions which we can taken in response to the information that is yielded by the annual housing survey, it seems to us, at least on a preliminary basis, that those kinds of actions aren't so sensitive and so fine tuned that every year these policies will be changed as a result of information yielded by the survey. And so the possibility of cutting back the frequency of the survey is a very real one we are actively exploring. At the same time, we don't want to impair its usefulness, and we do understand it is a valuable resource in terms of housing in America and that we would not want to tamper with lightly in altering the program or seriously damaging its value.

PROGRAM EVALUATION

Senator GARN. Is program evaluation in PDR receiving increasingly lower priority as the budget figures might suggest?

Mr. SAVAS. On the contrary. Evaluation is one of the most important things that we are, and should be, doing, and we expect to accelerate it. We have been conducting evaluations formally in that part of the budget which is labeled evaluation, but evaluations cannot be put into a box quite so neatly. We also conduct evaluations which are not necessarily conducted by the Division of our organization which is formally called the Evaluation Division.

As an illustration, we have underway a major evaluation of the UDAG program. That program is clearly an evaluation, and one of the most fundamental evaluations of the impact of that program. It does not normally appear as part of the evaluation line of our budget, however.

RESEARCH PROJECT COMPLETION TIMES

Senator GARN. In order to be responsive to policy research needs, projects should be really rather short in timeframe. Has PDR been able to shorten the length of project completion times?

Mr. SAVAS. It is too early for me to say that we have an already shortened timeframe, but we have insisted on accelerating some projects that are in the pipeline and indicated that some projects must be finished within the current year appropriation and should not depend on cost overruns or anything of this sort in the future. So in that respect we have already done some shortening. As I indicated before, our thrust is going to be a policy thrust in relevant kinds of research rather than long-term philosophical research.

WEATHERIZATION

Senator GARN. DOE's low-income weatherization program helps low-income persons insulate their dwellings to reduce utility costs and conserve energy. DOE provides grants to States which, in turn, redistribute funds to community action agencies for program implementation. For fiscal year 1981, $198,950,000 was appropriated for the program. The administration's budget would terminate the DOE program and incorporate it into HUD's CDBG program. What current and long-range plans does HUD have for funding and implementing low-income weatherization, considering the need to weatherize about 10 million low-income households in the country?

Mr. SAVAS. Part of the answer to that question rests on the fact that there are now already a variety of incentives, both economic incentives and financing mechanisms, available to encourage people to invest in saving money. The entire program, the President's program, to deregulate energy costs has resulted, as we all know, in marked reductions in consumption of energy and marked reductions in imports of fuel oil. People are using energy sources more consciously and more frugally. People are weatherizing their houses, and there are incentives in terms of tax incentives for people to do so.

ASSISTING LOW-INCOME PEOPLE THROUGH COST REDUCTION

Senator GARN. I understand that. But what I am really looking at is the low-income households where the tax incentives, in some cases, don't mean a great deal. Their incomes are such it doesn't really benefit them. There have been some problems with the way DOE has administered the program, particularly with increasing costs in the quality of weatherization, and I hope that is something that you could look into—improving both the quality and something about the costs. I realize the overall problem is inflation. Many of the programs you talk about certainly are in place. But they are not, in many cases, helpful to low-income people.

Mr. SAVAS. Let me respond then more directly to your question in two ways. First, we do have underway within our Technology Office, and have had underway, various technical programs aimed at letting people know how to achieve weatherization at low cost and insulate their houses. In fact, the publications issued by the General Publications Office on our work have been very, very widely used, and millions of copies have been utilized and purchased by people. So in one respect we are doing research to figure out how can we weatherize houses better—and letting people know about it—in a low-cost, energy-efficient way.

With respect to other aspects of weatherization, the community development block grant program does afford some opportunities, and I would like to turn to Donald Dodge, the Acting General Deputy Assistant Secretary for Community Planning and Development, to answer that question more fully.

Mr. DODGE. Mr. Chairman, the average cost for weatherization for each unit is about a thousand dollars, according to DOE. Currently, of the $3.6 billion for community development block grants, approximately $1.1 billion will be spent for rehabilitation. We believe that it is rational and prudent for cities to be able to use those moneys for weatherization. In fact, they are using a proportion of that money for that purpose. Conceivably, $1.1 billion could be applied to weatherization as well as rehabilitation, and we believe that ought to be an available choice for block grant recipients.

WEATHERIZATION EFFORTS IN RURAL AREAS

Senator GARN. Do you feel that the merger will have an effect on weatherization efforts in small cities and rural areas, if it is under HUD?

Mr. DODGE. We are not ignoring small communities. In fact, this past year approximately 2,000 grants went to small communities—less than 50,000 population—and we have seen a gradual increase in rehabilitation, too. I believe in small cities it now amounts to approximately 30 percent. So we are not ignoring small communities at all.

Senator GARN. Senator Huddleston.

HOUSING BLOCK GRANTS

Senator HUDDLESTON. Thank you, Mr. Chairman.

I understand that the Policy Research and Development Division has a report on housing block grants; is that correct?

Mr. SAVAS. Yes; we are in the stages of finalizing that particular report for submission to the Congress.

Senator HUDDLESTON. Do you have an idea when that report will be released?

Mr. SAVAS. Within about a month, I think, is a good estimate.

It will be going to OMB within a month and should be released shortly after.

Senator HUDDLESTON. Would you expect any action to be taken on its conclusions any time in the near future?

Mr. SAVAS. The report does not contain conclusions or recommendations in the sense of advocating a particular policy or step. What the report does is rather thoroughly analyze the implications, the advantages, and disadvantages of housing block grant programs. It describes possible designs for block grant programs and probes complex issues such as how do we maintain legislative intent behind the programs while at the same time turning over responsibility. It identifies what possible programs might be included within a block grant program. It explores the very thorny question of what kind of budget authority do you pass on along to States and local governments should there be housing grants. Do you provide a budget year authorization or just contract authority, and so forth. So, in that respect, the report does not have explicit recommendations of pushing for a course of action. What I believe the report does is provide a good sound basis for policy discussions which will involve the Presidential Commission on Housing, which will involve the Congress and other interested parties.

Senator HUDDLESTON. It seems to me that is the kind of information that we ought to have before finalizing any block grant program. Do you think it will be available in a timely manner so that it can be considered during the debate and discussion on this issue?

Mr. SAVAS. Yes; that is our intention and we are fully confident that it will be available. As I say, the timetable is very near now. And I am pleased to agree with you, to enlighten the policy discussion with a few facts.

Senator HUDDLESTON. It would be some kind of radical apprcach. [Laughter.]

INPUT FROM PRIVATE INTEREST GROUPS

But it might be worthwhile, once anyhow.

Have there been any discussions with outside groups such as the National Governors' Conference or League of Cities about the possibility of a demonstration of the block grant approach?

Mr. SAVAS. We have consulted quite widely with the various public interest groups, including the National Governors' Association, Council of State Legislatures, National League of Cities, U.S. Conference of Mayors, and other organizations, and their input has been reflected in the preparation of this report. With respect to a demonstration per se, I am not aware that we have gone very far in talking about a demonstration. And a demonstration, it seems to me, would be premature before fleshing out a particular design. And at that point, after the design is prepared and agreed upon and legislated, or legislation considered, one might then think if it shall be done experiementally. I guess our prior disposition is there should be some kind of demonstration rather than the full-blown program. A little bit of caution and one step at a time seems to make sense.

HOUSING ASSISTANCE COUNCIL

Senator HUDDLESTON. For some years the Housing Assistance Council has been funded under P.D. & R. What are your plans for funding HAC in fiscal year 1982?

Mr. SAVAS. Well, we have no explicit budgetary plans for that. We are acutely aware that in the past the Appropriation Committees have explicitly indicated that a certain amount of funding, at the minimum, should be provided to the Housing Assistance Council. In our opinion, it is not a good idea to mandate a particular amount of money that should go to the Housing Assistance Council. They have some strengths and some skills which we think can be used. Considering the budget cutbacks that have been occurring to the research and technology budget, we feel that those cutbacks should be reflected in all your decisions. We would hope that Congress does not mandate a particular amount of money. If we were not mandated to spend a certain amount of money, we would certainly look very carefully at our programs and how HAC can be used. In the past, because of that mandate, the program has often been a grant to the council which has been used for basic institutional support, unlike a contractor for which particular work and particular products are specifically required. We would think the latter is the more appropriate approach at this time.

HUD'S ROLE IN RURAL AREAS

Senator HUDDLESTON. I would like to return to a subject that we discussed briefly yesterday with the Secretary; that is, what is HUD's role in small towns and rural areas in both the housing and community development areas. I would like to know what HUD would consider a small town or a rural area, and I would like to know what you think HUD's role in those towns should or should not be.

Mr. SAVAS. Despite the use of the word "urban" in the title of the Department, we do recognize our responsibility to rural areas and we do have a variety of programs underway in rural areas. The community development block grant program, for example, for small cities, this year to be turned over for administration to the States, clearly aims at small cities. In fact, the program strengthens and expands HUD's role in that area, or HUD-financed work in that area, by going from 25 percent to 30 percent in terms of amount of money being allocated that way.

Senator HUDDLESTON. You do see a definite role and continued role?

Mr. SAVAS. Yes, indeed.

CONSOLIDATION OF HOUSING PROGRAMS

Senator HUDDLESTON. The Secretary indicated yesterday that he hoped that HUD would obtain responsibility for rural housing programs. Is this a revival of the old reorganization plan of several years ago?

Mr. SAVAS. When a new administration comes into office I think it is appropriate to consider more fundamental alternatives. We are all aware that the Federal Government does not have one housing department but, in a sense, many housing departments. The Veterans Administration has a housing program of one sort. The Department of Agriculture has a housing program. HUD has a housing program. Defense has housing programs. And, for that matter, Health and Human Services has a housing program to the extent that welfare grants are used explicitly to pay rents and subsidize rents in a directed sort of way. We think it is appropriate to reexamine the whole realm of this panoply of housing programs. I hate to put the burdens on the Presidential Housing Commission, but that, too, is appropriate. So it is not so much a question of reviving old thoughts, or from another perspective old wine in new bottles, but reexamining what the Federal Government is doing in housing and are there better ways of doing it.

HOUSING FACTOR IN CONSUMER PRICE INDEX

Senator HUDDLESTON. This question involves a Government-wide issue, but does P.D. & R. have a position on changing the housing factor in the Consumer Price Index?

Mr. SAVAS. We are, as a matter of fact, engaged right now, working with the President's Cabinet Council on Economic Affairs, examining the question of price indices and various components therein and ways to make that index more truly reflective of needs, and so on.

Senator HUDDLESTON. You think it is a proper area for HUD to review and be involved in?

Mr. SAVAS. Absolutely.

Senator HUDDLESTON. Have you worked with the Commerce Department in any way?

Mr. SAVAS. Yes, the Cabinet Council is considering this issue. It involves all the major departments—Commerce and Treasury. It involves the Council of Economic Advisers, OMB, as well as HUD and, perhaps, some other agencies which I have forgotten.

Senator HUDDLESTON. Thank you very much.

Mr. Chairman, thank you.

Senator GARN. Senator Huddleston, if you would like to continue, with only two of us here, we don't need to be that tight on time.

Senator HUDDLESTON. You go ahead.

EFFECTIVENESS OF PFS FORMULA AS MANAGEMENT TOOL

Senator GARN. In 1980, Congress reduced the amount of funds HUD requested for 10 public housing authorities to clear their operating deficits. Only $13.8 million of the $52.6 million requested was approved—a reduction of about $39 million. In making this cut, we stated that poor performances by PHA's should not be rewarded by bailing them out with Federal dollars. What is the current financial condition of the Chicago Housing Authority and the nine other PHA's that HUD requested additional funds for in fiscal year 1980 to clear their operating deficits?

Mr. SAVAS. Before turning that question over to Assistant Secretary Winn for an answer, let me comment. We are not at all satisfied with the performance funding system we use to give operating subsidies to public housing authorities. That has demonstrated short-term weakness because it failed to provide for inflation. That has been taken care of in the proposed 1982 budget. However, we still find long-term problems which reflect exactly the point you made, that we think there are no significant incentives in the performance funding system to encourage good management in the public housing authorities. We are trying desperately to figure out if we can design a performance funding system which does reward good management and punish poor management. We are considering a wide variety of theoretical options to try and improve the management of PHA's.

With respect to the various housing authorities you have mentioned, Chicago and the others, let me turn to the Assistant Secretary for Housing.

Senator GARN. Let me say, I certainly hope you will pursue these various options because in so many cases, since I have been here, the usual cry is, "Well, the program hasn't worked because it was underfunded; therefore, we need more money for it." I just don't subscribe to that kind of bailout. It seems to me we have got to get some incentive so you will be rewarded for doing a good job and not rewarded for doing a poor job of management.

Mr. SAVAS. We could not agree more. The Secretary feels the same. I know Assistant Secretary Winn feels the same.

ANALYSIS OF PUBLIC HOUSING PROBLEMS

Mr. WINN. I may have been criticized somewhat, maybe very slightly, but I very much agree with the position that the entire public housing matter in this country has got to be analyzed. It is certainly a very, very top agenda item as far as I am concerned.

At this particular time, the Chicago Housing Authority, as of December 30, 1980, had a deficit of $33.6 million. They claim they will not be able to meet payrolls after May 29 unless there is more funding. I, personally, have taken the stand, and stated it openly, that the Federal Government can no longer have an open checkbook, and that there has to be rewards for good management.

The thing that disturbs me, Senator, is we are funding PHA's, yet the entire power and authority, basically, is in the cities which appoint the authorities. So it confuses me, frankly, because funding comes from one place and the appointments come from other. I have asked my staff to prepare some ideas, which they have started to do, where we can involve the local communities far more in their operation. But the point remains now that there are many—in Boston, Philadelphia, Bridgeport, and others—that have minus reserves. But, again, the answer cannot be just our continuing to write checks to bail them out. Philosophically, I am against it. There is something wrong with the system. In certain cities they are operating very well; in other cities they are operating poorly. Coming from a business background, I feel strongly that the majority of problems stem from management, and we have got to get looking at the management of those PHA's and making certain rules are abided by.

LOCALITIES MUST SHARE RESPONSIBILITY

Again, being new here, I hesitate to shoot from the hip. However. I can't quite understand, with the waiting lists, why we are not collecting massive rents. People in public housing have probably the best value for rents of any low- or moderate-income family in America. And if we have set certain rents, they should be abided by and followed. So I think we have many, many problems on the whole public housing scene. But the answer can no longer be for us to just continually fund them. I think one of the problems of the PFS is it may not penalize one totally for operating poorly, but there are certainly no benefits, there is no reward, for good operation. So we are going to be looking at the PFS system in its entirety. We are setting up programs, and hopefully we will be working with the mayors. I have already visited with two mayors on this. With power and authority also goes responsibility. And I believe there are cities that will develop support from various outside organizations.

I can certainly speak for my city of Denver. If there was a real problem in that authority, we could gather community leaders who would work with the PHA to solve the problem. We have got to get back to the point where it is a city responsibility, not totally ours. I don't think we are taking a too hard-nosed attitude. But the attitude has changed as far as the funding is concerned.

Senator GARN. I agree with you. There is that same attitude that appears in transportation programs. That is the problem with operating subsidies in mass transit as well. We provide the money to the local authorities and mayors and they don't have to bargain quite as hard with the unions, because they know they will get operating subsidies from the Feds. I think it is a very simple principle, but it ought to work here, too.

I notice, as my children have grown older and they started earning their own money how much more careful they are with their own money than they are with mine and how much better care they take of things they purchased with their own money than they did with mine. I have a son who is now 15 and has a paper route. He said to me one day, "I would like some $55 running shoes." I said, "Fine. You make your own money. Buy them yourself." Well, he bought a pair of $18 instead of $55 running shoes. [Laughter.]

I don't really think that principle is any different when we are dealing with government entities. If government entities can get money from us, they are not going to manage it as well as if the money came from local revenues. So again, I would emphasize my encouragement for you not to reward poor management with bailouts.

I have a phone call that I must take.

Senator Huddleston, if I could turn the questioning back to you.

SMALLER HOUSING AUTHORITIES

Senator HUDDLESTON. I would say that we have also gotten some complaints from small housing authorities. It is not just the larger ones, although we have heard from the larger ones, too. What experience have you had with the smaller authorities?

Mr. SAVAS. I wonder if I might turn that question over again to Assistant Secretary Winn. Have you had any direct observation or can you make any comments about small housing authorities?

Mr. WINN. I really can't make any observation between the big and small. Obviously, the big ones get the notoriety because the numbers are larger. But, to be very candid with you, Senator, I have no background as far as comparing the big and small. Again, many of the big ones have some problems, but also there are many small ones that have problems. But I think it all boils down to management.

FINANCIAL ADJUSTMENT FACTOR

Senator HUDDLESTON. That has been our experience there.

Yesterday we talked with the Secretary about the Department's plans for reinstituting the special financial help through FAF. What is your judgment on the possibility of meeting the new construction, the 44,750 units, and the substantial rehabilitation of 10,000 units projected in the 1982 budget.

Mr. SAVAS. Let me again turn that question over to my esteemed friend and colleague, Mr. Winn.

Mr. WINN. Thank you.

We are proceeding on the presentation of the financial adjustment factor. I think we know that there has been an enormity of discussion as to the cost of section 8. And, to answer your question directly, without a financial adjustment factor it is very unlikely that we can deliver the units that are budgeted for.

IMPACT OF UNIT MIX SHIFT ON LOCALITIES

Senator HUDDLESTON. Now the mix of new versus existing units is being shifted so that in fiscal 1981 you expect to get a 49–51 mix and in fiscal 1982 a 45–55 mix. How does this compare with the needs shown by the housing assistance plan?

Mr. SAVAS. It is not inconsistent with the needs. Let me get some clarification. You mean the needs as shown in the housing assistance plans that are filed by localities?

Senator HUDDLESTON. Yes; right.

Mr. SAVAS. Those plans, although it is possible to aggregate them, at the individual level they still represent rather broad planning targets. So that this change in our mix to a 55–45 obviously will be reflected in the aggregate throughout the Nation in what happened in individual cities and localities. But it would not represent any kind of severe wrenching or serious dislocation of HAP's, by and large, in the localities. I don't think the localities would complain that their plans have been tampered with or altered. Those plans are 3-year documents after all and represent rather broad kind of plans which are implemented gradually. Individual allocations to a given community are always less than the plans call for. The plans represent, in some sense, an ideal. Communities are used to living within those plans and dealing with the allocations as they come along and with the notices of funds availability as they are issued by the local HUD office. So, in that respect, I would not expect any significant dislocation or any problem caused to individual localities.

Senator HUDDLESTON. I would hope that special consideration would be given to certain areas, certain communities where there isn't much of an option because there is virtually no existing housing to be dealt with, and any housing at all is going to be new.

Mr. SAVAS. Quite right. We recognize, after all, these are broad national numbers and we will, of course, have individual kinds of programs for individual areas, trying to recognize the need of individual localities.

ELIGIBLE BLOCK GRANT ACTIVITIES

Senator HUDDLESTON. Getting back to the block grant situation, the $3.6 billion requested for community development block grants in 1982 is slightly less than the fiscal year 1981 amount. We have heard that a number of additional activities, such as 312, 701, and neighborhood self-help, can be picked up under the community development block grant. In view of the figures, is that realistic to expect that to be done?

Mr. SAVAS. Well, those activities are continuing to be eligible activities within the community development block grant, and it seems to me that the question then is, how do localities that receive a block grant choose to allocate those funds? For example, some people have expressed concern about the disappearance of the 701 money as a separate category. But I think it has been well demonstrated, in a sense, you can't do anything in this complex society without planning. I think most localities recognize the virtue and value of planning. In principle, one can't even tie one's shoes without planning a little bit. So that, to the extent that local planning agencies and functions and activities have been found locally useful, I am confident that the communities will continue to fund those activities. And smaller communities will be able to continue to function, getting planning funds either from the community development block grant, which will be State administered, or from other sources.

We should remember, if I am not mistaken, only about 3 percent of all eligible small communities have ever gotten, or have been getting, 701 planning funds. And so the question is not so much what will happen to those communities if they lose those planning funds—which, incidentally, only averages $10,000 per community—the question is, how have the other 97 percent been managing without 701 money? I suspect that if a detailed study were done—and I do not propose to do such a detailed study—it would find neither the planning nor quality have suffered from the lack of planning in the 97 percent of the communities.

ESTABLISHING LOCAL PRIORITIES

Senator HUDDLESTON. We are, in effect, through the block grant approach, going to force States or local areas to establish some priorities and to weigh one program against the other, and something has to go. It is not a question of being able to keep everything anymore, as I see it.

Mr. SAVAS. That is correct, Senator, that priorities will be forced, and that can't be anything but a salutary process, to decide which is more important, which is less important. However, there also will be less room for doing what is needed.

Senator HUDDLESTON. With the caveat that any program could be financed locally or statewide if they thought it was necessary.

Mr. SAVAS. I am sorry, I didn't understand.

Senator HUDDLESTON. I said with the caveat that any program they might want to enter into might be financed by State or local sources if they so desired.

Mr. SAVAS. That is exactly right. That goes back to the chairman's comment before about a different example, about running shoes financed out of your own paper route money.

Senator HUDDLESTON. I suppose I have been one of the champions of the 701 program because I have seen how it has been used in Kentucky, where we have areawide development districts. It does provide necessary funding for a kind of planning that allows a State such as Kentucky with 120 counties—which is about twice as many as we need—to coordinate between these county units; it eliminates a lot of duplication, and I think we get a good return on our money from that standpoint. So I have been very concerned that the localities continue to have some kind of financing that helps them to continue that type of planning.

Mr. SAVAS. Yes; that is correct. You have described a perfect situation where areawide planning, regional planning, makes a good deal of sense and where funds have been used and the need therefore has been demonstrated. I would like to believe those kind of worthwhile activities will continue to be financed, and there are many mechanisms available to State, county, and local governments to facilitate that. There are some 23,000 special districts, after all, throughout the United States. These districts might be fire districts, library districts, recreation districts, water supply or water sewage treatment districts. And the concept of planning districts is what we are talking about here. There are adequate mechanisms that long predate the community development block grant program for localities into these kind of joint arrangements to do what needs doing locally.

SMALL CITIES PROGRAM

Senator HUDDLESTON. I am also interested in State administration of the small cities program. We used it in Kentucky this year and it seems to have worked pretty well. What incentives will States have to participate in the small cities program?

Mr. SAVAS. Well, I think the fundamental incentive will remain the political imperative. State leaders, after all, are elected by their citizenry. I have heard complaints from some county officials and city officials always expressing concern that the State is somehow not sufficiently responsive to local needs. Well, my perhaps simple-minded view of democracy is, how can you have States not responsive to local needs? You keep throwing them out of office until you get some people who are responsive to local needs.

Senator HUDDLESTON. How much autonomy will the States have in administering this program? Will HUD have the final approval on participation as far as selecting criteria and that type of thing?

Mr. SAVAS. The States will have considerable autonomy. I would like to turn it over to Don Dodge for a fuller answer, if I may.

Mr. DODGE. The States will not be required to use the present HUD selection criteria; however, States will be required to meet statutory objectives. Now in the case of the Kentucky and Wisconsin demonstrations, we did approve the criteria and the plan that the State adopted for selecting the small cities in the preliminary competition. I frequently hear the question of incentives. I would like to think that States have the same kind of people as the person that is managing that program in Kentucky—Sally Hamilton, who is doing a good job.

10 PERCENT MATCHING FUND

Senator HUDDLESTON. What about administrative costs, will they be included in the State's share of matching funds?

Mr. SAVAS. They will not be included, Senator.

Senator HUDDLESTON. They will have to carry those themselves.

What is meant by the 10-percent match?

Mr. SAVAS. Let me turn that question over again to Mr. Dodge.

Mr. DODGE. We are not certain what the 10 percent includes. This was a provision which was added by the Senate. Where that 10 percent would come from is uncertain at this point, but we probably will have to discuss that with Members of the Senate and their staff to find out what their intention was in placing that provision in the act.

Mr. SAVAS. In other words, we are looking forward eagerly to have you tell us what is meant by the 10-percent figure. [Laughter.]

Senator HUDDLESTON. As soon as we figure it out, we will let you know. [Laughter.]

MERGER OF UDAG AND CDBG

We touched yesterday, to some extent, on the UDAG grants with the Secretary, too. A separate UDAG authorization is being eliminated, but a $500 million appropriation level is being retained annually, at least under the Senate authorization bill. What is your interpretation of that particular action?

Mr. SAVAS. Well, as the Secretary said yesterday, UDAG lives. It is a program, a rather large program, reduced only 20 percent from its former level. The program continues to survive and there is a lot of popular appeal for it, but there is considerable question about it also, question about whether the kinds of activities and kinds of economic developments going on might be going on anyway even without the benefit of UDAG. And, as a matter of fact, particularly, specifically in order to answer that question, the Secretary and the Budget Director agreed that there would be a comprehensive evaluation of the impact of the UDAG program. As a matter of fact, this very week we have teams of research people out in the field visiting various cities and interviewing in depth various local government officials, bankers, trying to understand what is it precisely that the UDAG program has been accomplishing in a randomly selected set of cities. And we are also going beyond that to try to shed some light on the question, "Well, this would have gone on anyway," by taking a sample of UDAG applications that were turned down and seeing what happend, in fact, to those applications that applied and were turned down. Have projects gone along anyway?

IMPACT ON PROGRAM ADMINISTRATION

Senator HUDDLESTON. Do you anticipate that there will be some changes in the administration of it, the implementation of plans connected with the program?

Mr. SAVAS. No significant changes during the next program year. In a sense, tightening up and trying to make sure that adequate private leveraging is utilized and trying to tighten up our competitive selection criteria to assure that only the worthiest projects are approved, but there is no wholesale change being planned in the administration or organization of that program.

Senator HUDDLESTON. Thank you, Mr. Secretary.

Mr. Chairman, thank you very much.

ADDITIONAL FUNDING FOR OPERATING SUBSIDIES

Senator GARN. Thank you. I appreciate your taking over, Senator Huddleston. I think the crisis of the morning has been solved. Sometimes we have more than one, but, fortunately, I have only had one so far this morning.

Let's get back to talking about the PHA's that we were talking about before I had to leave. Does HUD plan to request additional funds or otherwise provide PHA's with funds over and above their normal share of funds provided through the performance funding system?

Mr. SAVAS. The question was, "Does HUD plan to provide PHA's with funds above and beyond their normal share?"

Senator GARN. Yes. Specifically I am referring to those 10 PHA's that Phil and I were talking about as I left.

Mr. WINN. We do not plan on requesting additional funds.

EFFECTIVENESS OF PFS

Senator GARN. What is the Department's opinion of the effectiveness of the PFS?

Mr. SAVAS. The performance funding system has both short-term and long-term problems. The short-term problem was it failed to reflect adequately unexpected increases in utility costs, particularly energy costs; the formula used for that was inadequate. So there was a short-term adjustment made and the implementation and consequences of that adjustment are reflected in the 1982 budget request for subsidies for PHA's.

For the long term, as I suggested before, we feel that there are inadequacies because the system, fundamentally, has few incentives for good management. We already have underway, or have in the pipeline, a project to produce a more rational funding formula.

Senator GARN. I can assume then you do plan to make further changes in the PFS?

Mr. SAVAS. Yes, indeed. They are not likely to be short-term changes, but they are definitely being contemplated and, more than contemplated, actively being sought.

Senator GARN. Are you far enough along to outline what those changes might be?

Mr. SAVAS. No; I am afraid not. We have just begun this process in the very recent past.

RETROSPECTIVE INFLATION ADJUSTMENT

Senator GARN. In Secretary Pierce's opening statement yesterday, it was noted that your fiscal year 1982 public housing operating subsidies budget includes a retrospective inflation adjustment of $81.9 million. How will this $81.9 million be distributed to PHA's and does the distribution plan recognize the regional differences in inflation encountered by various PHA's around the country?

Mr. SAVAS. Yes; the allocation formula is sensitive enough to pick up those differences and will be responsive to those differences.

FUEL COST INCREASE

Senator GARN. In determining the fiscal year 1982 funding under the PFS, what percentage increase did you factor in for fuel cost increases over those encountered during fiscal year 1981?

Mr. WINN. That is 11.3 percent, Senator.

Senator GARN. 11.3 percent?

Mr. WINN. 11.3 percent.

REVISED OPERATING SUBSIDY REQUIREMENTS

Senator GARN. In your April 20 response to a letter that I sent HUD on March 27 on this issue, you indicated that the projection of operating subsidy requirements will be made in early May. Do you have the results of that analysis yet?

Mr. SAVAS. Let me again turn to Mr. Winn.

Mr. WINN. No; the revised projection is not yet available. Hopefully, it will be shortly, but it is not as yet.

PHA PROCUREMENT PRACTICES

Senator GARN. GAO is currently reviewing the procurement practices of six public housing authorities. Generally, they found that: Five of the six PHA's did not have procurement/supply management systems; PHA's were paying different prices for the same item or were buying different items at different prices for the same purpose; PHA's were not complying with State law and Federal regulations requiring competitive procurement; three of the six PHA's were using cost-plus-a-percentage-of-cost contracts, an illegal type of contract; the PHA's did not have systems to monitor contractor performance; PHA personnel and HUD personnel are not trained in basic procurement concepts; and HUD's monitoring and audit of PHA's do not specifically address procurement.

Under the prior administration, HUD did not have any formal procurement training programs for either PHA staffs or HUD personnel responsible for monitoring the operations of the PHA's and providing them with technical assistance.

Would you tell me what the new administration's plans are to assist the PHA's in obtaining the necessary capability to effectively plan, schedule, and economically procure goods and services?

Mr. SAVAS. We had one program underway which is designed to canvass the various PHA's throughout the country and to find those which are distinguished in some way, distinguished on the good side in terms of using good practices in procurement and in the specific area you are talking about, as well as other matters and practices. This project is being directed by a person at HUD who was formerly a housing authority manager. Our intention is to find the best practices that are being used throughout the country and to start educating other housing authorities in this. This is by no means a substitute for incentives because you can show the best practices to a public housing authority in a city without any assurance whatsoever it will be done. We would like to think there is enough professionalism to show an interest in good housing practices and, coupled with a good incentives system, they will pick that up. So that is a part of the answer.

I wonder, Phil, if you wanted to add to that in terms of what we might be doing and are doing.

Mr. WINN. Mr. Tom Sherman is here, who I think could explain it in more detail, with your permission.

Senator GARN. Certainly.

Mr. SHERMAN. I have met with the GAO people in connection with this particular review. We have drafted a handbook on procurement and have put it into clearance. We do expect to have training in this regard. And in our regular system of reviews and audits we are making sure that procurement is one of the items that is being checked.

FRAUDULENT PROCUREMENT PRACTICES

Senator GARN. GAO's preliminary work indicated that, in the past, HUD's management reviews and audits did not specifically address the potential for fraud, waste and abuse in PHA procurement practices. Do you have any plans for specifically looking into the fraud and abuse area beyond what we have been talking about?

Mr. Sherman. Yes, sir, we do.

ELIMINATION OF WASTE AND FRAUD

Senator GARN. Let me make a point here, gentlemen, that I feel very strongly about. You have heard me before, some of you in your confirmation hearings. I have had 13 years of experience with HUD, and I have seen new administrations come and go and say all the same things. Now we have Republican control of the Senate and we have a Republican President and we have Republican appointees. I understand you have only been there a very brief period of time and so some of your answers to questions have to be general and optimistic. But I want you to know, that a year from now I am going to expect some results.

To put it very bluntly and candidly, I have campaigned for years on how we should do things differently in the Government. I want you to know a year from now, as both chairman of Banking Committee and this Appropriations subcommittee, I expect to see some very definite progress in the area of procurement. I think it involves tens of millions of dollars. We have got housing problems in this country and we have very little money to go around to help solve them. So it is important that we use the money more efficiently.

I have said it over and over again that I think HUD is one of the most wasteful of all agencies in terms of procedures, rules, regulations, and normal business practices that go far beyond what you can excuse Government for.

If a new administration is in office 4 years from now, I don't want to sit here and have people say, "OK, Senator, your party was just as screwed up as the Democrats were when they ran HUD." So I am not threatening you, but putting you on notice. I certainly don't expect you to have the solutions to the problems since you are new and just beginning to look into these problems. But, next year I expect you to have some answers. I would hope we could get HUD back to housing and urban development matters rather than antihousing and placing roadblocks in the path of people trying to find decent housing.

When one starts looking at the funds HUD has spent over the years, I think it would have been better if we had given people $25,000 and said, "Go buy a house or a condo," rather than have to support programs which have become incredibly expensive due to the administration of these programs by HUD. I think we could have had a lot more housing in this country without HUD. In fact, there are some people who have done studies showing the amount of money HUD has spent could have been better used without HUD. We would have simply given money to people with lower incomes and told them, "Go buy a house with the money." The only administration would be making sure people spent this money for a house.

I know you didn't come here for a lecture, but to answer questions. However, I have waited for an opportunity during the last 13 years to do something about HUD, and I think now is the time. [Laughter.]

As we have talked, I realize that every one of you share my same attitudes. However, I hope you will not get swallowed up or co-opted by the bureaucracy nor that we find the Reagan administration only turned out to be a minor inconvenience to HUD. Usually, a change of Presidents is just a minor inconvenience to the bureaucracy because they know they will still be around after a President has left office. I have seen this happen too many times during my years of holding public office.

Hopefully, next year there will be some progress in the delivery systems and more housing will be provided for the money.

Mr. SAVAS. Senator, we hear you loud and clear. Of course, we accept the challenge and we recognize the very constructive way it is intended. All I can say is, you should judge us in the future, and I hope we can show what we can do.

TIMETABLE FOR PROCUREMENT PRACTICES

Senator GARN. We will judge you on your progress, there is no doubt about it.

In the past, HUD provided little guidance or technical assistance to PHA's in development of sound procurement programs. We understand that HUD has now drafted a handbook on procurement for guidance to PHA's on pricing, inventory control. We just heard about the handbook. We agree with the timely development of such handbooks to provide guidance for the complete procurement cycle. Can we get a little more detail on the timetable and estimate of cost to complete the project?

Mr. SAVAS. To complete the project on the procurement manual?

Mr. SHERMAN. We now have the draft handbook in for departmental clearance. I am hopeful that we can speed up that clearance and get the handbook approved and printed and available to PHA's within the next couple of months.

Senator GARN. Would it be possible to supply the subcommittee with a monthly update on the progress in this area of procurement so we don't have to wait for a hearing a year from now to see?

Mr. SAVAS. Yes, if it is out of clearance a year from now. Yes, I think it is a good idea.

Senator GARN. Well, obviously the clearance process is something in HUD that needs to be attacked. If you would like us to issue machetes to cut through this process, we could probably do that in your budget. [Laughter.]

Gentlemen, there are some additional questions that members of the committee would like to submit to you for response in the record. Are there any comments any of you would like to make before we close?

Mr. SAVAS. I don't think so.

Senator GARN. Thank you very much. We appreciate your being here.

[CLERK'S NOTE.—The following questions were not asked at the hearing but were submitted to the Department for response subsequent to the hearing.]

QUESTIONS SUBMITTED BY SENATOR GARN

Section 8 Program

Question: Since the majority of Section 8 new construction projects are under 5-year contracts and the first projects produced are about 5 years old, has the Administration performed a survey of project owners' plans to renew or cancel their contracts? Can the Administration estimate the number of units likely to be lost from the subsidized inventory over the next 5 years?

Answer: No survey has been performed to indicate the number of units which no longer will require Section 8 assistance. However, the Department expects to offer contract renewals for projects that are in compliance with current contracts assuming that the need for subsidized housing still exists in the community.

Question: What is the Administration's position on the possibility of eliminating the Fair Market Rents and annual automatic rent adjustments and to determining contract rents and rent adjustments on the basis of costs?

Answer: There is no simple answer to the problem of establishing an equitable and reasonable level of rents in the Section 8 program. The Fair Market Rent mechanism was adopted as one way to assure that Section 8 units would reflect costs associated with comparable units of modest design in the immediate area of the projects. The alternative suggested, a cost-based approach, would present many of the same problems. An objective cost standard would have to be developed against which to compare the costs of proposed projects. This would be no easier than developing a "fair market" rent. One of the principal complaints in practice against the Fair Market Rent mechanism is not that it results in rents which are too high but that, in many instances, they are not amended quickly enough to reflect the prevailing market for newly constructed units. This results in difficulty in achieving new reservations in some areas. A similar problem could be associated with a cost-based approach.

Mechanisms for providing housing assistance will be scrutinized closely by the President's Commission on Housing. While the issue of how best to establish reasonable rent levels is one of continuing concern to the Department, we do not wish to anticipate the Commission's findings.

Question: What is the Administration's opinion of a policy that future new construction for elderly projects be required to have a specified number of efficiency units for every 1 bedroom unit?

Answer: The Department is opposed to an arbitrary limit on unit bedroom size because needs vary from locality to locality.

Question: What is the Administration's view and/or opinion towards a policy under which Section 8 developers could opt for higher initial equity investments in return for greater cash distributions during operations?

Answer: As a general rule, all real estate developers seek to minimize initial equity investment requirements. It is doubtful whether the prospect of additional cash distributions throughout the 20-or 30-year term of assistance payments would provide a sufficient incentive to developers. Furthermore, it is not clear that higher initial equity contributions coupled with higher payments over the term of the assistance payments would result in lower overall costs to the Government. It is true that the mortgage on the property would be reduced as a result of a higher developer contribution. This would ordinarily lead to a lower contract rent. However, the impact would be offset to a lesser or greater degree by the need to provide for higher payments to owners over the life of the assistance payments.

Ineligible Section 8 Households

Question: Section 8 regulations allow project owners, under certain circumstances, to loan a percentage of Section 8 assisted units to households ineligible to receive assistance. Data collected by GAO indicates that many projects exceed the established limits. What HUD plans, if any, are being developed to strengthen the regulations on ineligible occupancy?

Answer: The GAO report recommended that HUD should lower the percentage limitation on ineligible households from 10 percent to 5 percent for new, fully assisted projects and allow no ineligible households to occupy contracted units in partially assisted projects. However, HUD has only recently lowered the level of permissible ineligible tenants from 20 percent to 10 percent. HUD needs a reasonable period to analyze the impact of this change. A further reduction to a 5 percent limitation would be premature.

GAO also recommended that HUD should issue explicit enforcement guidelines for HUD Regional and Area Offices to deal with project owners who fail to comply with HUD's policies on ineligible occupancy. In response, HUD has pointed out that very explicit enforcement options already are written into the regulations and the Section 8 contract. Specifically, the options available to HUD are as follows:

- --Reduction or suspension of housing assistance payments to the owner;
- --Denial of owner/agent participation in HUD programs until compliance is achieved;
- --Reduction of units under the contract; and
- --HUD assumption of control of project operations.

The range of options described above provides ample enforcement authority.

Question: What has HUD done to restructure tenant selection procedures to ensure that contracted units serve, to the maximum extent possible, subsidized households?

Answer: HUD is changing the contract terms for newly funded projects and those projects which must have their contracts renewed or amended to require that the owner give priority to tenants who are eligible to receive a Section 8 subsidy.

Question: Has HUD taken steps specifically aimed at better enforcement in the Chicago and Detroit Area Offices which GAO brought to the Department's attention in August 1980 as problem areas?

Answer: The GAO report did not make any specific recommendations for the Chicago and Detroit Area Offices. The data obtained from those offices were used to extrapolate the national situation. GAO did not indicate that the Chicago or Detroit situations were in any way different from those existing in any other Area Office. Consequently, no special action has been taken with respect to the Chicago and Detroit Area Offices. All changes in the regulations or contractual terms which require that owners give priority to tenants who are eligible for Section 8 assistance will affect all projects nationwide.

Public Housing Development Costs

The previous Administration had proposed funding 40,000 Public Housing units, including 4,000 units for Indians in FY 1982. The Revised Budget reduced the number of units to be funded to 24,000 and eliminated the 4,000 units scheduled for Indians. This action reduced the budget authority by approximately $3 billion.

While the proposed reduction in the level of Subsidized Housing units for Fiscal Year 1982 will have the desired effect of significantly reducing budget authority and outlays, it does not deal directly with two major problems cited, namely: (1) the sharply increasing per unit cost of subsidized housing and (2) the inequity of many years standing of providing housing subsidies to only a fraction of the total eligible households.

Question: What assessment has HUD done to determine the best financing mechanism for providing housing at the lowest costs while achieving greater equity among the most needy families that are eligible for subsidized housing?

Answer: The Department currently is examining a number of alternative mechanisms for reducing housing subsidy costs while at the same time providing adequate subsidy coverage to the broadest range of needy households. This examination of alternative mechanisms includes review of measures which can be utilized to reduce the costs inherent in financing new construction and rehabilitation activities as well as finding more efficient and effective means of utilizing and preserving the available rental housing inventory. A prominent choice is the separation of production from assistance to the poor which will benefit both.

A great deal of research important to this examination already has been undertaken and now is in the process of review. For example, the Experimental Housing Allowance Program, the ongoing Section 8 research program, the Annual Housing Survey and other evaluations provide a useful base of information.

While a number of measures are being taken currently to reduce housing costs to the extent possible, the single best way to control housing costs is to control spiraling inflation which seriously erodes buying power with available dollars, both private as well as tax dollars. The impact of the inflationary economy being experienced is evidenced in the rapidly rising construction, financing and operating costs of the housing industry in the last few years. If this Administration with the cooperation of the Congress can implement the measures that have been proposed to reduce this inflation, a truly critical step will have been taken to control housing costs.

Question: Why has HUD placed so little emphasis on Public Housing when information such as GAO's Report and other research show that Section 8 has become an extremely expensive mechanism?

Answer: The Department agrees that the Section 8 program costs have been increasing rapidly. However, the Department does not believe that a shift from emphasis on Section 8 construction to Public Housing construction will result in any significant savings to the taxpayer. The same factors which affect the cost of the Section 8 program also impact upon the Public Housing program. The answer to the spiraling cost of the Section 8 program is not simply to shift to another program where costs may be equally as great, but rather to correct the factors which have resulted in these increasing costs.

The amount reserved for Section 8 projects represents the full expected contract rent for units in those projects and takes into account both debt service costs as well as operating costs needed to support the projects. For Public Housing projects, the average cost shown in the Annual Contributions for Assisted Housing budget justification reflects only the debt service which is calculated assuming Federally-tax-exempt financing, exclusive of any operating costs. The cost gap between the programs narrows significantly when the following factors are included in the cost comparison: (1) the impact of revenue lost to the Treasury as a result of tax-exempt financing, (2) the revenue foregone by localities as a result of reduced property taxes, and (3) the Operating Subsidies required to operate Public Housing.

The preceding represents an "average" situation for Public Housing. In fact, we have a bifurcated system consisting of "troubled" big city Public Housing with questionable management delivering a poor product and a network of 2,000 relatively well-run small city and rural Public Housing Agencies.

Question: What is the Department's estimate of the potential life cycle cost savings achievable by shifting 10,000 units from Section 8 to Public Housing?

Answer: Determining life cycle subsidy cost savings between Section 8 and Public housing requires the use of a common set of assumptions regarding direct and indirect subsidy costs. A comparison of Section 8 and Public Housing per unit subsidy costs under the life cycle subsidy cost comparison is shown below based on the following assumptions: (1) both the Section 8 and Public Housing units each are assumed to have 2 bedrooms; (2) each have a total development cost of $31,000 per unit; (3) each is occupied by identical 4 person households; (4) each has an annual gross income of $5,000; (5) operating expenses including utilities and other costs are assumed to be the same, and (6) growth rates for household income and operating expenses also are assumed to be the same.

Based on the following comparison, the shifting of 10,000 units from Section 8 to Public Housing would result in an increase in subsidy costs of $1,566 per unit on a total of 10,000 units, or $15,660,000. The amounts represent cumulative subsidy per unit discounted back to present value at a rate of twelve percent.

PER UNIT SUBSIDY COST

YEAR	SECTION 8 UNIT a/	PUBLIC HOUSING UNIT
5	$25,496	$21,255
15	41,713	42,527
40	56,750	58,316

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a/ Assumes Section 221(d)(4) and GNMA Tandem Financing.

Question: What percentage of Section 8 housing serves large low-income households as compared to Public Housing?

Answer: Based upon available data for Fiscal Years 1979 and 1980, the percentage of total Section 8 households occupied by large low-income households (households with six or more minors) represent one percent of occupied Section 8 units. The comparable percentage for the Public Housing program is four percent of occupied units.

Indian Housing

Question: The Department has recommended reducing Indian Housing by 1,000 units in FY 1981 and eliminating the program in FY 1982. Could you please describe the status of the pipeline, including the funding of sewer and water through the Indian Health Service? Based on the fact that it takes about 37 months to move a unit from reservation to occupancy — when is the latest that additional reservations would have to be made in order to maintain the current production rate? What unique problems are experienced by Indian tribes in obtaining housing and what mechanisms, other than the current program could be successful in addressing these problems?

Answer: As of February 28, 1981, the Indian Housing pipeline included 427 projects with 15,007 units as follows:

	PROJECTS	UNITS
Approved projects pending Contract List ...	232	8,509
Contract List pending Contract Execution ..	6	257
Contract Execution pending Construction Start	51	1,584
Subtotal, Pre-construction	289	10,350
Under Construction	138	4,657
Total Pipeline	427	15,007

At the current completion rate, there are enough units in the Indian Housing pipeline to produce completions for about three years assuming the availability of water and sewer funding from the Department of Health and Human Services appropriations.

There are a number of problems encountered by Indian tribes in obtaining decent housing such as land title, accessibility, lack of prepared sites, inexperienced native labor and the lack of ongoing management talent. The Department is exploring alternative mechanisms for providing assistance, but no definite proposals are ready at this time.

Basis of Section 8 and Public Housing Budget Estimates

Question: You expect that your revised FY 1981 Budget will support 210,000 assisted housing units. Your FY 1982 Budget includes funding for an estimated 175,000 subsidized units. How did you arrive at the FY 1982 level and how does this relate to the housing need as determined by the Department?

Answer: The FY 1982 Budget estimates reflect the overriding need to gain control of inflation and of Federal spending. They also are based on the concern expressed by Congress as well as the public about the cost of the current Section 8 and Public Housing programs. The estimates represent a modest reduction from FY 1980 and FY 1981 levels of activity pending the examination of the future role of the Federal government in housing.

Any definition of "housing need" relative to the subsidized programs is basically arbitrary since need relates directly to the subsidy mechanism. Section 8 shows a high "need" by using a generous eligibility formula and, in the past, a generous rent-to-income ratio. By any objective measure, the Nation's standard housing inventory has improved substantially in the past decade and this trend will continue if inflation can be controlled. If inflation cannot be reversed, no amount of subsidy would cover the cost of housing for potentially eligible people.

Assisted Housing Mix

Question: In the January Budget, you assumed a new/existing ratio of 50/50. The revised request proposes a 45 new and 55 rehab mix. You state that local HAPs will be followed as "closely as possible" within the limitations of the national mix limitations. Currently the Department processes about 2,500 HAPs annually. How many of this would you estimate will have to be adjusted to fit the new mix?

Answer: Housing Assistance Plans (HAPs) have not been submitted for 1982. Therefore, no realistic estimate of the number of Housing Assistance Plans (HAPs) which will have to be adjusted in order to achieve the national mix of 45 percent new construction and 55 percent existing can be made at this time.

Question: The plan calls for the reservation of 96,250 new units during FY 1982. How many were reserved so far in FY 1981 where your goals were 79,800?

Answer: As of May 31, 1981, FY 1981 new construction net reservations for the Section 8 and Public Housing programs were as follows:

	FY 1981 RESERVATIONS		
	Budget Estimate	Actual as of 5/31/81 (In Units)	Balance
Section 8	55,000	3,044	51,956
Public Housing	24,000	1,400	22,600
Indian Housing	5,000	796	4,204
Total, New Construction ...	84,000	5,240	78,760

The activity to date in the fiscal year mirrors the experience of past years. Because of the lengthy processing procedures involved--making funds available, advertising for bids, evaluation of proposals and approval of projects - a preponderance of reservation activity normally occurs in the fourth quarter.

Question: You have also assumed the reservation of 10,000 HUD-owned moderate rehab units. How does this relate to your FY 1981 experience and how will you be able to achieve the planned level?

Answer: As of May 31, 1981, a total of 487 (net) Section 8 units had been reserved to assist in the disposition of HUD-owned properties. This compares with the estimate of 10,000 units included in the 1981 Budget. The Department plans to make every possible effort to achieve its sales goals with respect to HUD-owned properties and will, where it is appropriate, utilize the Section 8 program to assist in these sales.

Housing Costs

Question: Housing experts, including the HUD Task Force on Housing Costs, have identified the components of raising housing costs as: (1) Land Supply and Development, (2) Building and Technology, and (3) Financing and Money Market. Given reduced budgetary resources for FY 1982 and the reduced Federal role, how will HUD address the issue of Housing affordability?

Answer: The reduced availability of Federal resources will result in a cutback of direct subsidy assistance to some families. However, the root of the problem of housing affordability lies beyond the assisted housing programs as indicated, many of the problems contributing to the high cost of housing such as land supply, building costs and financing costs are not subject to Federal jurisdiction. A principal objective of the President's Commission on Housing will be to make recommendations on the action which the Federal Government might take within its current jurisdictional authority and to suggest additional legislative remedies which may be necessary. Within HUD, both deregulation and the reduction of amenities coupled with new financing vehicles will be used to reduce single family housing costs.

Question: How will plannned cutbacks in HUD's Research appropriation affect studies and demonstrations designed to reduce the cost of home construction?

Answer: The reduction in HUD's Research appropriation as proposed by Administration will not adversely affect ongoing work on housing cost reduction. HUD is planning to conduct a Housing Cost Reduction Demonstration this year which will not require additional research funds.

Question: How has HUD attempted to deal with problems of Housing cost and affordability?

Answer: HUD has a number of initiatives dealing with housing affordability. Currently, the Council on Development Choices for the 80's is about to publish its final report with many recommendations for cost reduction. It also will be holding a number of roundtable discussions on this topic with local government officials. HUD has had a Housing Costs Task Force in the past and still has staff for this function. HUD has conducted a national conference and also a demonstration in four locations in the Nation. Major revisions in minimum property standards will lead to a program of deregulation and reduce amenity requirements.

Question: What progress has HUD made in seeking interagency support in attempting to reduce housing costs?

Answer: Since the May 1978 Final Report of the HUD Task Force on Housing Costs, HUD has sought and received support in attempting to reduce housing costs from the Council on Environmental Quality (CEQ), Veterans Administration (VA), Department of Agriculture/ Farmers Home Administration (USDA/FmHA), National Institute of of Building Sciences (NIBS), Federal Trade Commission (FTC), Department of Interior/Bureau of Land Management (DOI/BLM), Department of Agriculture/Forest Service (USDA/FS), Council of Wage and Price Stability (COWPS), Department of Labor (DOL), Federal Reserve Board (FRB), Federal Home Loan Bank Board (FHLBB), National Science Foundation (NSF), Department of Justice (DOJ), Office of Personnel Management (OPM), Office of Management and Budget (OMB), Federal National Mortgage Association (FNMA), Federal Home Loan Mortgage Corporation (FHLMC), National Aeronautics and Space Administration (NASA), and the Department of Commerce/National Bureau of Standards (DOC/NBS).

Question: Has HUD initiated any cooperative programs with other agencies like NIBS to deal with affordability? If so, what type of programs and with what agencies? To what extent has HUD worked with industry in dealing with Housing affordability?

Answer: HUD has initiated cooperative programs with most of the agencies listed in response to the previous question to deal with affordability problems identified by the Task Force on Housing Costs.

Upon completion of the Task Force work, HUD awarded NIBS a contract to undertake a comprehensive study of building codes impact on housing costs, and develop rehabilitation guidelines. HUD employees serve on the capital NIBS committees and work closely with them. FTC conducted research on housing defects, CEQ studied uniform environmental reviews and USDA studied low cost rural housing. HUD also has worked with industry to streamline, simplify and make the regulatory systems uniform for Federal, State and local use.

Elimination of GNMA Tandem

Question: How will HUD's reliance on tax-exempt and conventional financing affect the costs of Assisted Housing programs?

Answer: Only a small portion of the FY 1982 Section 8 program level will be affected by the elimination of GNMA Tandem financing. Of the 175,000 units of Section 8 and Public Housing proposed for FY 1982, 7,550 units will be directly impacted by the change. For these units the average Section 8 financing will increase by $1,000-$1,100 per unit and will require an an additional $7.6 to $8.3 million of contract authority and $159.6 to $174.3 million of bugdet authority.

Public Housing Operating Subsidy

Question: You note in your Opening Statement that your FY 1982 Public Housing Operating Subsidies Budget includes a retrospective inflation adjustment of $81.9 million. How will this $81.9 million be distributed to PHAs and does the distribution plan recognize the regional differences in inflation encountered by various PHAs?

Answer: The funds will be distributed to each eligible Public Housing Agency (PHA) based on each PHA's allowable expense level which will be recalculated by using revised inflation factors for the years 1977 through 1982. Each PHA will then enter FY 1982 with a revised allowable expense level. The adjustment will retain the localized effect of the site specific characteristics of Local Government Wage Rates (the current factor), but will be adjusted by the introduction of a non-labor component nationwide index, the "Implied Deflator for Local Government Purchase of Goods and Services." The revised inflation factor is based on a 60 percent weight for the local wages index and 40 percent for the local government purchase of goods and services index. Therefore, the revised index has a 60 percent weight for a local inflation factor.

Question: In determining the FY 1982 funding under the PFS, what percentage increase did you factor in for fuel cost increases over those encountered during FY 1981?

Answer: Utility rates are estimated to increase by 11.3 percent in FY 1982 over the utility rates in FY 1981.

Question: In your April 20 response to my March 27 letter on this issue, you indicated that a projection of Operating Subsidy requirements will be made in early May. Could you please share the results of that analysis with us now?

Answer: The Performance Funding System (PFS) calculations from Public Housing Agency budgets for the fiscal years beginning January

1 and April 1, 1981 and the most current monthly status reports on Operating Subsidy requirements from the Field Offices have been analyzed. This analysis indicates a total revised FY 1981 requirement of $1,218.5 million, or an increase of $147.7 million above the $1,070.8 million provided in the FY 1981 HUD-Independent Agencies Appropriation Act and the FY 1981 Supplemental Appropriations and Rescission Act. The increase is almost exclusively the result of increased utility costs in 1981.

Public Housing Modernization

Beginning in Fiscal Year 1981, Public Housing Modernization is being performed pursuant to the Housing and Community Development Act of 1980. The new program enables Public Housing Agencies to obtain funds for the purpose of: (1) upgrading living conditions to present-day standards, (2) correcting serious physical deficiencies and (3) achieving operating efficiency and economy. Also, funds made available for the Comprehensive Improvement Assistance Program (CIAP) in Fiscal Year 1981 will be utilized for correcting conditions which threaten the health or safety of the tenants or for other special purposes such as energy conservation.

The Administration proposes to stretch out the timetable for implementing the Public Housing Modernization program on the basis that the original funding for the program was so ambitious that it is questionable whether the money could have been used effectively. Also, the Administration believes that the basic objectives of the Comprehensive Improvement Assistance Program (CIAP) will still be accomplished in a reasonable time period on the assumption that an improved U.S. economy will reduce inflation-caused increases in the cost of operating Public Housing. As you know, we have gone along with this proposal and recommended the recission of $300 million from the $2 billion appropriated in FY 1981.

Question: Considering recent economic forecasts, is the Administration still optimistic that its strategy for stretching out the time-table for completing Public Housing Modernization will have no adverse effects on the program?

Answer: At the present time, the Department does not anticipate that stretching out the Modernization program will have any adverse effect on the Department's ability to implement the Modernization program. In fact, it is expected that the most pressing priorities will be addressed immediately while program experience is being gained.

The Comprehensive Improvement Assistance Program (CIAP) requires the preparation and submission by PHAs of an assessment of the physical and management improvements required as well as replacement items together with a schedule of implementation not to exceed five years. PHAs will be required to submit schedules for the expenditure of funds and the completion of work and to provide overall supervision of the work being performed. In short, the Comprehensive Improvement Assistance Program represents a more complex and thorough going approach to Modernization activities than heretofore experienced. Consequently, it is anticipated that the improved decision making and management efficiency which will occur after a period of actual "hands-on" experience will offset inflation induced cost increases. Also, it is anticipated that interest rates will moderate in future years as the President's Economic Recovery Program takes effect. A lower interest rate structure will mean that available amounts of contract authority and budget authority will support a higher principal amount for Modernization loans.

Question: Has the Administration developed any alternative timetable strategies and if not, what would be the effect of a slower economic recovery period on meeting the programs's objectives?

Answer: The Department has not developed any alternative timetables for completing Public Housing Modernization. The effect of a slower economic recovery period (i.e., a higher inflation rate than currently anticipated) would be to reduce the amount of Modernization activity that could be supported with available contract authority and budget authority. That would mean that the total Modernization need would have to be addressed over a longer period of time than currently anticipated.

Question: How many of the approximate 200,000 PHA units requiring substantial architectural and design changes that were reported in last year's Authorization Hearings will be "modernized" in Fiscal Year 1982?

Answer: An estimate of approximately 200,000 units with serious deficiencies was included in the preliminary report of modernization needs received in June 1979 under the "Perkins and Will" contract. The draft final report under that contract which was received in March 1980 estimated that 86,386 units had chronic problems. "Projects with Chronic Problems" is the category of units in most need of Modernization. The per unit cost will depend on whether the project receives comprehensive, emergency or special purpose (for energy conservation) Modernization. It is assumed that the average cost per unit will be approximately $15,000. An estimated 54,000 units could be modernized at a funding level of $75 million of contract authority. This would finance approximately $818.2 million of improvements.

Question: Will any of the units be improved in Fiscal Year 1981?

Answer: Assuming that the average cost per unit is approximately $15,000 in FY 1981, an estimated 61,800 units could be modernized at a funding level of $85 million of contract authority. This would finance approximately $927.3 million of improvements.

Question: Under the new program, how much will be spent on basic health and safety problems in Public Housing units in the first year?

Answer: No separate estimate of spending for basic health and safety problems has been computed. However, it is anticipated that the most urgent Modernization needs (i.e., basic health, safety and emergency needs) will receive the highest priority. Consequently, it is reasonable to assume that a somewhat higher percentage of total available funds will be used for these purposes in the first year of the program than in subsequent years.

Question: How will modernization priorities and scheduling be determined?

Answer: Since the intent of the statute is to undertake Comprehensive Modernization, neither the statute nor the regulation specifies priorities in the use of funds. However, it is anticipated that emergency work items which affect the life, health and safety of tenants will be given priority for funding. The statute states that preference shall be given to Public Housing Agencies (PHAs) that have a significant number of vacant, substandard units and that have demonstrated a capability of carrying out the proposed

Modernization program. In addition, energy conservation work items under special purpose modernization will be given special consideration for funding, but not a priority.

Question: Will the cost of correcting all basic health and safety standards plus all violations of HUD Minimum Property Standards be performed before other improvements?

Answer: Under the comprehensive improvement approach, a project approved for Comprehensive Modernization will receive funding to correct all basic health and safety standards, plus all violations of Minimum Property Standards, i.e., to meet the modernization standards authorized by the statute and established by the Department. In addition, that same project may receive funding for physical work that exceeds the HUD-established standards, but only when it is shown to be necessary or highly desirable for the long-term operation or marketability of the project. The statute authorizes HUD to approve work that exceeds the standards on a case-by-case basis.

Question: How much of the current out-years' funding proposal will be concentrated in improving PHA and HUD management abilities?

Answer: The Department has administratively limited the amount of available funds that may be used for management improvements. The combined costs for management improvements and planning shall not exceed 10 percent of the approved physical improvement costs for a Public Housing Agency in a particular fiscal year unless specifically approved by HUD Headquarters.

Question: How will the new regulations provide a common level of quality at which projects are to be maintained, i.e., guarding against a disproportionate share of available funds going to a few over-improving PHAs?

Answer: The regulations require that all projects approved for Comprehensive Modernization under the Comprehensive Improvement Assistance Program (CIAP) must comply with the physical standards established by HUD. The standards provide design, construction and environmental criteria for uniformly evaluating the physical condition and energy efficiency of existing projects and determining what rehabilitation is necessary. Any physical work that exceeds the standards must be individually justified and approved. It must be demonstrated that such work is necessary or highly desirable for the long-term operation or marketability of the particular project.

Question: What is the current status of regulation development, i.e., we understand that the CIAP regulations are currently pending approval?

Answer: The CIAP regulations were published as an Interim Rule on April 14, 1981. The public comment due date is June 15, 1981 and the effective date is July 13, 1981. Training of HUD field staff and Public Housing Agency staff has been completed.

Section 8 and Public Housing

Question: If HUD raised the tenant contribution from 25 to 30 percent of income, how much savings would be realized in fiscal 1982, over the next 5 years, and over the lifetime of the Section 8 contract?

Answer: If HUD raises the tenant contribution from 25 percent to 30 percent in one percent increments from FYs 1982 through 1986, the Department estimates that the following savings for all Section 8 contracts would be realized.

Fiscal Year	Outlay Savings (In Millions)
1982	$75
1983	183
1984	324
1985	494
1986	696

Projected outlay savings for a single Section 8 contract on a newly constructed Section 8 unit would be as follows:

Fiscal Year(s)	Outlay Savings
1982 (1 year)...........	$54
1982-1986 (5 years).....	943
1982-2002 (20 years)....	8,500

There would be no budget authority savings since budget authority is based on the full contract rent and, therefore, remains unchanged.

Question: Could you please translate these savings into the number of additional people HUD could serve without increasing its Section 8 expenditures?

Answer: Outlay savings associated with increased tenant rent contributions will not enable the Department to subsidize additional families nor will there be any impact on the amount of budget authority associated with a Section 8 contract. Budget authority represents the total amount of rent to be paid over the life of a Section 8 unit. In the early years of a contract, tenant contributions keep Federal outlays for the rent payment low. This results in the build-up of a project reserve which can be used in future years as operating costs increase. This savings in outlays will reduce the subsequent need for contract authority and budget authority amendments to keep projects solvent. Outlay savings, therefore, do not translate into savings that can result in a corresponding increase in the number of families that could be subsidized.

Question: What is the Department's current policy regarding the placement of a broad range of low-income families in HUD-owned and HUD-subsidized projects?

Answer: Pursuant to current statutory provisions, Public Housing Agencies (PHAs) are required to adopt policies for Public Housing projects directed toward achieving occupancy by families with a range of incomes similar to that of the eligible population in the locality. There are no similar requirements applicable to Section 8 projects.

Question: Has this policy resulted in trading off housing for the truly needy in order to generate additional rental income?

Answer: In implementing income-range policies, many PHAs have had to defer the admission of families in the lowest income groups to Public Housing projects because there are so many participating in the program already. It is difficult to measure the impact of these policies on rental income because the demographics of the Public Housing population change very slowly and any increase in rental income resulting from housing families in higher income ranges is likely to be masked by changes in the incomes of the entire eligible population and changes in PHA rent schedules over the same period.

Question: Over the past several years, GAO has issued a number of reports that identified problems in tenant income reporting and verification. What are HUD's procedures for assuring that project owners and PHAs adequately protect HUD's interest by properly monitoring tenant eligibility and verifying their income?

Answer: Monitoring the PHA's determinations of eligibility is done mainly through on-site field reviews conducted every two years by HUD. In the course of these reviews, a random sample of tenant files is selected and the PHA's determinations are reviewed in detail. In addition, PHAs are required to certify to HUD annually that all tenants in Public Housing have been admitted in accordance with the PHA's policies and are eligible to remain in the program.

Question: What incentives do owners and PHAs have to perform this function?

Answer: For PHAs receiving Public Housing Operating Subsidies, failure to conduct timely reexaminations of family income is grounds for withholding a portion of the Operating Subsidy equal to the amount estimated to be lost as rental income. Both Section 8 owners and PHAs are required to fulfill the sections of the contract with HUD which cover these provisions. Their performance in this area is reviewed and considered before additional Section 8 units are approved by HUD.

Tenant Eligibility

Question: As you know, the Banking Committee has recommended reducing the eligibility standard for housing subsidies from 80% to 50% of median area income. This change was made in order to better target assistance to the truly needy. How many families would be eligible under this new criteria and how does this compare to the number of units made available in FY 1982 and FY 1983?

Answer: Under the revised criteria, an estimated 9.1 million households would be eligible for assistance under both income and household type criteria. Of this total, 2.7 million households already are receiving assistance, leaving 6.4 million unassisted eligible households. Completions in FY 1982 are estimated at 266,300 units and are expected to be at approximately the same level in FY 1983.

Housing for the Elderly or Handicapped

Question: Your Budget proposes net loan reservations of $830.8 million for the Section 202 program in FY 1982. How will the number of units produced under this program in FY 1982 compare to the FY 1981 level? You expect to use "up to $20 million" of recaptures to fund additional commitments. What is your best current estimate of the actual amount of recaptured authority that will be available during FY 1982?

Answer: The 1982 Budget proposes net loan reservations of $830.8 million for the Section 202 program which would fund the reservation of 17,200 units. The same amount of net loan reservations in FY 1981 will support an estimated 18,400 unit reservations. The decrease in the unit reservations in FY 1982 is due to the estimated increase in the average cost of project units approved for construction.

It is estimated that 18,000 unit starts and 18,000 unit completions will be realized in FY 1982 compared with 18,000 unit starts and 25,000 unit completions in FY 1981. Construction completions during FY 1982 are projected to decrease as a result of the high number of completions anticipated for FY 1981.

The best current estimate of the total recaptured authority for the Section 202 program in FY 1982 is $20 million as reflected in the 1982 Budget.

Section 235 Homeownership Assistance Status

You are not requesting any additional authority for Section 235 in FY 1982.

Question: What is the status of the $70 million of new contract authority provided in FY 1981?

Answer: The 1981 HUD-Independent Agencies Appropriation Act provided $70 million in new contract authority and the transfer of $2.1 billion in budget authority from the Annual Contributions for Assisted Housing account for the Section 235 program. As of May 31, 1981, a total of $44.4 million of contract authority and $1.3 billion of budget authority had been utilized to reserve 13,393 units. As a result of this activity through the end of May, $25.6 million of contract authority and $768 million of budget authority remained available for additional reservations.

Congregate Services

Question: As you know both the House and Senate Appropriations Committees have recommended the rescission of $10 million in the Congregate Services program. Recent estimates from HUD indicate that the remaining $20 million could support a demonstration program which would include 2,500 residents in 65 projects. What is the current status of the program?

Answer: The status of the Congregate Housing Services program as of May 15, 1981 follows:

	Grants	Participants
FY 1979 Appropriation		
Currently in operation	28	1,100
Selected awaiting occupancy	9	350
FY 1980 Appropriation		
Selected awaiting final contract	18	500
To be selected	10	250
Total	65	2,200

Based on more recent data, it now is estimated that approximately 2,200 residents would be assisted under the demonstration program rather than 2,500 as projected earlier.

Question: How much money has been earmarked for the evaluation phase and when will the interim results be available?

Answer: Approximately $1.3 million is committed to the evaluation which is targeted for completion in December 1983. A contract for the evaluation was signed on September 24, 1980 to be jointly financed by HUD from the Policy Development and Research (PD&R) appropriation in the amount of $800,000 and $500,000 by the Department of Health and Human Services, Administration on Aging (AOA). The prime contractor is the Hebrew Rehabilitation Center for the Aged (HRCA), Department of Social Gerontological Research, of Boston. The evaluation is being monitored by HUD (PD&R) with the assistance of AOA.

The major evaluation target dates are as follows:

Evaluation Contract Executed	September 24, 1980
Preliminary Process Draft Report	December 20, 1980
Final Process Report	July 20, 1981
Draft Performance Report	November 1, 1982
Final Performance Report	December 15, 1982
Modules for Program Handbook	October 15, 1983
Final Impact Report	December 1, 1983
Summary Report	December 1, 1983

HUD Mortgage Insurance Program

The Administration has proposed a reduction in the FHA limit on additional insurance commitments from $44 billion to $35 billion in FY 1982. There has been some speculation that the Administration will phase-out the program. I understand that you will be carefully reviewing the need for FHA mortgage insurance and FHA's role in the future, possibly through the appointment of a Presidential Commission on Housing.

Question: What are your current plans in this area? FHA outlays in a given year stem more from the condition of the economy than from any HUD policy. Although OMB and CBO predict similar economic conditions for 1981 and 1982, HUD estimates that FHA will need 11% less budget authority in Fiscal Year 1982 than 1981. What is the basis of your estimate?

Answer: It is true that the President's Commission on Housing will review the Department's housing programs, including the mortgage insurance programs. Until the Commission has had an opportunity to complete its analysis and submit its recommendations, any speculation in this area would *be inappropriate. Budget* authority for the FHA Fund represents a funding source for the General Insurance and Special Risk Insurance Funds which is required to provide funding in addition to revenues in excess of expenses generated from operations. Budget authority consists of (1) appropriations which are used to restore actual losses incurred in the acquisition and sale or liquidation of acquired properties or mortgage notes; (2) debentures issued in settlement of claims under certain sections of the Housing Act; and (3) funds borrowed from the Treasury for payment of cash claims when there is insufficient cash available. Based on actual losses incurred in FY 1980, the appropriation request for FY 1982 reflects a decrease of $47 million over the FY 1981 request which was based on actual losses incurred in FY 1979. This decrease in requested budget authority, however, is partially offset by an estimated increase in net Treasury borrowing requirements projected for FY 1982. The overall decrease in budget authority requirements estimated for FY 1982 is expected to result from an anticipated decrease in claims.

Question: Isn't it true that FHA is especially useful during tight credit periods? That is, at times when high interest rates raise income eligibility requirements, FHA offers financing to many marginal borrowers who would not qualify for conventional credit. Given the fact that: (1) reducing FHA commitments offers no immediate budgetary savings, and (2) we undoubtedly are in a tight credit period; then why is HUD requesting a reduction in FHA commitments?

Answer: It is true that HUD's share of the market usually increases during tight credit situations and the budget request for a $35 billion mortgage insurance commitment limitation assumes an expected slight increase in mortgage insurance applications to be received in FY 1982 over the $34 billion level for FY 1981. An increase is projected despite the expectation that private mortgage insurers will increase their activity and assume some of the mortgage insurance business which has been covered by HUD previously.

Question: Is the private mortgage insurance industry truly capable and willing to serve the entire unsubsidized market currently being served by FHA, at essentially the same terms? If so, should HUD surrender the market to private insurers?

Answer: The Department believes that Federal Government participation should be eliminated when services can be provided by the private sector. Toward this end, if Private Mortgage Insurers (PMIs) are willing to provide 95 percent financing in the inner-city and older suburban areas which HUD covers, it may be appropriate to reassess HUD's role. There are serious concerns as to whether PMIs would be capable or willing to serve the segment of the housing market which HUD now assists. A Presidential Commission on Housing will examine this issue in detail. However, the minimization of risk inherent in any profit making venture can be expected to target PMI activity to those areas where profits can be maximized. Since HUD is not constrained by profit considerations, it historically has had a mission to expand homeownership opportunities to those deserving homebuyers who otherwise would be unable to purchase homes. As a result, the Department insures loans with terms far more liberal than PMIs can afford to make. Nevertheless, the Department administers the program in a responsible way and all losses under Section 203(b), which is the basic unsubsidized program, are paid from the mortgage insurance premiums collected *from mortgagors* who have taken advantage of the program benefits at no expense to the taxpayer.

Question: Should FHA continue to provide home mortgage insurance for relatively high income families buying relatively high-priced houses or should it be serving exclusively those less apt to be served by the private insurance industry?

Answer: The HUD mortgage insurance programs are designed primarily to serve those homebuyers who otherwise would be unable to obtain mortgage financing without HUD mortgage insurance. Program initiatives are focused on meeting the housing needs of such buyers (particularly first-time buyers) and it would be extremely difficult to establish limitations due to diverse market areas throughout the country. The Department prefers to maintain a relatively broad base and possibly insure mortgages for higher income families to avoid the possibility of denying deserving individuals in certain areas. Market considerations and the current mortgage limits should ensure that HUD mortgage insurance is not used to an excessive degree to finance homes by higher income families.

The Department does not view itself and the PMIs as competitors, but instead as partners assisting different segments of the housing market. Pending completion of the study and recommendations by the Presidential Commission on Housing to the contrary, it would be a mistake for HUD to surrender its portion of the housing market on the premise that PMIs can take its place.

HUD Mortgage Insurance Premium Collection Procedures

Congress recently passed legislation which requires HUD to either collect insurance premiums monthly or charge lenders interest on the Funds. However, FHA has not altered its collection procedures and hopes to satisfy this legislative requirement by collecting premiums one year in advance.

Question: Could you please compare FHA's revenues under: (a) monthly collections, (b) payments one year in advance, and (c) the present system? How do the collection costs for each system compare?

Answer: Section 530 of the Housing and Community Development Act of 1980 requires HUD either to collect insurance premiums monthly or to charge interest if the premiums are held by the mortgagee and paid to HUD at the end of the year. This Administration intends to carry out the legislation as it is written. Multifamily mortgage insurance premiums are paid to the mortgagee in advance and collected by HUD annually. The mortgagee is billed for these funds and said funds should be remitted to HUD within thirty days. Should the funds not be remitted within thirty days, then an interest payment could be required. However, because the multifamily mortgage insurance premium is paid in advance and escrowed by the mortgagee, HUD cannot require that interest payments be made on funds not yet due. The Department currently is examining a number of issues related to implementation, including the effect of the Section 530 provision on existing insurance contracts, the timing of payments and options available to the mortgagee, and the method of payment. The Department also is examining a number of options for tracking the premiums due on approximately 5 million cases and is not yet prepared to provide estimates of the cost and expected revenues under the alternative mechanisms for implementing the new collection procedures. Once the legal and administrative issues have been resolved, the Department will submit the Proposed Rule for Congressional review prior to implementation.

Question: Delinquent payment of premiums represents another problem. In 1978, FHA was owed over $35 million in past due premiums. GAO believes that FHA has made little attempt to collect delinquent payments and notes that HUD, in 1980, cancelled all delinquent payments due prior to 1977. Given the fact that 7 percent of the delinquent premiums cancelled by HUD were subsequently voluntarily paid, shouldn't HUD undertake more rigorous collection efforts? How much would these collections cost? How much revenue would be generated?

Answer: The seven percent of cancelled delinquent premiums with due dates prior to 1977 were paid by the mortgagees only after extensive research and follow-up by HUD staff. The Department is continuing this extensive collection undertaking, but data are not readily available indicating the amount of additional costs or revenues generated. The Department enforces collection of delinquent premium payments as follows:

a. For more than a year, a staff of collection specialists has been assigned to expressly handle delinquent premium payments.

b. HUD regulations were amended in 1979 to require mortgagees to pay a late charge equal to four percent of the amount of their payments to HUD when premiums are submitted more than 15 days after the due date or billing date, whichever is later. This is intended to add an incentive for the mortgagees to pay premium bills on a timely basis. The Department is presently drafting a regulation change to also charge interest at the rate specified by the Treasury for delinquencies. This interest charge will be in addition to the late charge.

c. The Department analyzes the paying history of mortgagees over a six month period and concentrates its collection efforts on those mortgagees with poor payment records.

d. Past due notices are sent when payments are not received by the 20th of the month.

Question: FHA manages an acquired property inventory of about $1.1 billion. Some of this property, obtained through foreclosure proceedings, is also enrolled in other HUD programs such as Section 8. FHA loses revenue on this formerly subsidized acquired multifamily projects because it collects only the renter's portion of the total rent and absorbs the difference as insurance losses. FHA's Insurance Funds are, therefore, paying subsidies that may be chargeable to other HUD programs. What is HUD's estimate of the amount of Section 8 and other program rent subsidies being charged as FHA insurance losses? How much would it cost HUD to develop a system which prevented writing off rent subsidies as insurance losses?

Answer: For FY 1980, it is estimated that subsidy payments of $21.2 million would have been made to HUD-owned projects that had been subsidized prior to acquisition if statutory provisions and Departmental regulations permitted such subsidy payments. However, it should be noted that such payments to the FHA Fund would have required an equivalent increase in the annual Housing Payments appropriation.

If existing legislation were changed to require the continuation of subsidy payments after acquisition, the accounting system could be modified at minimal cost. However, the administrative impact would be substantial unless there were also a provision for continuing the current practice of applying uniform tenant rent contributions for HUD-owned projects regardless of the specific program subsidy applicable to the units prior to acquisition.

Mutual Mortgage Insurance Fund

Several months ago, GAO issued a letter report entitled, "HUD's Payment of Distributive Shares from the Mutual Mortgage Insurance Fund" (MMI). The report reviews the manner in which you have administered the refund portion of the MMI Fund. The Mutual Mortgage Insurance program allows single family homes to be purchased with small down payments and long term mortgages and insures lenders against losses from defaulted mortgage loans. The mutual aspects of the insurance program requires HUD to pay a dividend to eligible mortgagors when their mortgages are paid in full. These dividends, referred to as distributive shares, are income above that needed to pay the operating costs and insurance losses.

GAO's reviews showed that HUD's efforts to pay distributive shares have not been effective and that as of March 1980, 198,000 homeowners were due a total of $52 million in such payments. As part of their study, GAO interviewed 25 mortgagors whose mortgages were about to mature. All of these mortgagors were unaware that they may be entitled to distributive shares.

GAO makes two recommendations relative to improving the operation of this program:

1. Develop a fact sheet explaining the premium refunds for mortgagees to give to mortgagors both at the time of loan origination and at insurance termination.

2. Request mortgagors' Social Security numbers on termination requests and use the IRS mail forwarding service as an alternate means of locating mortgagors.

Question: It is my understanding that you have agreed to implement these recommendations, is that true? What is your proposed schedule for implementation? Have you worked out an agreement with IRS as of yet?

Answer: The Department is proceeding to implement these recommendations. One instruction to mortgagees already has been issued and another is in clearance and is expected to be issued shortly. In addition, a fact sheet explaining the premium refunds has been prepared and will be available for use by mortgagors. Also, the termination form has been revised to require the inclusion of Social Security numbers and it is expected to be printed in June 1981. The Department has written to the Internal Revenue Service concerning using its mail forwarding service and a reply is expected by June 30, 1981.

HUD-Held Mortgages with Delinquent Payments

Question: The Department of Housing and Urban Development holds over 2,000 multifamily mortgages valued at about $3.7 billion. These Secretary-held mortgages were either returned from commercial lenders after mortgagors defaulted on their insured mortgages or resulted from the Department selling property it had previously acquired. As of September 30, 1979, the Department reported that about $5 million in payments on these mortgages were delinquent.

The GAO reports that the current accounting system used by HUD does not provide the data needed for aggressive loan servicing. Many of the problems cited in this GAO report are, of course, not new. The report does, however, present, in one place, a series of recommendations that would help resolve some of the existing problems.

In particular, GAO recommends that: (1) servicing personnel receive timely information on mortgagors' payment status under the terms of the workout agreements; (2) an interim billing system be established for newly assigned mortgages; (3) late charges be assessed on payments overdue under the mortgages with the workout agreements; (4) inventories of the responsible Headquarters' Offices and the Field Offices be reconciled periodically; (5) the responsibility of obtaining tax bills on multifamily projects is transferred to the Field Offices; (6) records of the taxing authorities be reconciled periodically; (7) workout agreements that provided for a specific payment amount be established within 90 days after receiving a mortgage default; (8) field officers be required to obtain adequate financial statements when they are not submitted properly or fail to meet the proper regulations; (9) servicing personnel be further trained in financial statement analysis; (10) aggressive action be taken to obtain repayments of project funds that have been diverted.

Since the specific rationale involved in the development of each of these recommendations has been covered in previous hearings, I will not take your time at this hearing to review this material now. You do, however, have a copy of the GAO recommendations that I have just summarized before you. I would appreciate you describing the specific Department actions that you have taken on each of these items since HUD's last appearance before this Subcommittee in May 1980.

Answer: The current status of the recommendations made by GAO follows.

1. The Department has designed and programmed an automated billing system that will enable servicing personnel to receive information on a mortgagor's payment status under the terms of a workout agreement. The system should be fully operational in June 1981.

2. A new interim billing procedure for new assignments and purchase money mortgages was implemented in April 1980.

3. In April 1980, the Department instituted procedures to assess late charges on payments overdue under terms of a workout agreement.

4. The first reconciliation of multifamily inventory data between Headquarters and the Field Offices was completed in April 1980. Procedures have been developed for the reconciliation of inventory data on a semi-annual basis.

5-6. A delegation of responsibility to the Field Offices for obtaining tax bills on HUD-held projects and procedures for periodically reconciling HUD records with those of taxing authorities are in Departmental clearance.

7. The Department has an ongoing goal of bringing assigned project mortgages under an approved plan within 90 days of assignment. Mortgages are under approved plans if they have a workout agreement, are current under the terms of their original mortgage or have been recommended for foreclosure.

8. The Department is monitoring performance of the Field Offices in obtaining adequate financial statements.

9. Two training sessions on financial analysis were held in December 1980 and January 1981. Materials on this subject have been developed and distributed to servicing personnel in the Field Offices for their ongoing use.

10. The Department has several recourses available to it when a diversion of project funds is discovered which includes referral to the Department of Justice, initiation of foreclosure procedures, or arranging a workout arrangement for the repayment of funds. The type of action taken is determined on a case-by-case basis.

Property Acquisition and Mortgage Assignments

Question: In FY 1980, HUD maintained a total inventory of 290,325 acquired units and assigned mortgages. Your January Budget estimated that this would drop to 274,857 in FY 1981. What is the current status and what is being done to reduce the number acquired and accelerate the number of sales? You estimated a HUD inventory of 257,820 units in FY 1982. What are the major factors that influence the rate of acquisition and assignment and how do the prevailing conditions compare to the ones assumed in making your projections? Would you like to update that figure now?

Answer: The status of the HUD-assigned mortgage and HUD-owned property inventories as of March 31, 1981 are shown below. For comparative purposes, the year-end inventory levels for fiscal years 1980 and 1981 also are shown.

	9/30/80 ACTUAL	9/30/81 ESTIMATE (In Units)	3/31/81 ACTUAL
HUD-Assigned Mortgage Inventory			
Homes	15,075	16,855	17,504
Multifamily	218,258	213,870	219,367
Total	233,333	230,725	236,871
HUD-Owned Property Inventory			
Homes	23,180	20,295	22,207
Multifamily	33,812	24,537	32,785
Total	56,992	44,832	54,992
Total, Mortgages/Properties	290,325	275,557	291,863

The primary factors influencing the levels of acquisitions and sales are economic and national in scope and are largely beyond the control of the Department. However, the sales function of HUD is to reduce the HUD-owned property inventory in such a manner as to ensure the maximum return to the FHA Funds consistent with the need to preserve and maintain the housing stock and urban residential areas and communities.

Actual data as of March 31, 1981 indicates that several of the inventory estimates for FY 1981 may need to be revised for the reasons noted below. Revisions to the FY 1981 and FY 1982 estimates will be reflected in the FY 1983 Budget.

1. Home Mortgage Inventory Assumptions. The HUD assigned home mortgage inventory was estimated to increase from 15,075 units as of September 30, 1980 to 16,855 units as of September 30, 1981. The

rate of increase actually experienced has been greater than estimated primarily because of delays associated with implementing the Temporary Mortgage Assistance Payments (TMAP) program in accordance with the Conference Report accompanying the 1981 HUD-Independent Agencies Appropriation Act.

2. Multifamily Mortgage Inventory Assumptions. The HUD assigned multifamily inventory was estimated to decrease from 218,258 units as of September 30, 1980 to 213,870 units as of September 30, 1981. The estimated decrease was based primarily on assuming a higher rate of foreclosure activity than occurred in FY 1980. This higher rate, however, has not materialized in FY 1981 as reflected in data as of May 31, 1981.

3. Home Property Inventory. The HUD-owned home property inventory was estimated to decrease from 23,180 units as of September 30, 1980 to 20,295 units as of September 30, 1981. Current trends indicate that this level should be reached.

4. Multifamily Property Inventory. The HUD-owned multifamily property inventory was estimated to decrease from 33,812 units as of September 30, 1980 to 24,534 units as of September 30, 1981 primarily as a result of estimated sales during FY 1981 of 20,000 units. Current trends as of May 31, 1981 indicate that sales will be fewer than estimated.

Management of Acquired Multifamily Projects

Question: Do you believe that your Field Offices have the operating cost and expenditure data needed to effectively operate and control individual HUD-owned projects? Specifically, has the new budgeting and expenditure control system been effective in allowing HUD to better manage individual projects? Have you been able to quantify the results in terms of cost savings?

Answer: The new Budgeting and Expenditure Control System represents a significant commitment by the Department to improve its management and oversight of HUD-owned projects. Since all projects are covered in the Control System, it will provide detailed data for all revenue and expenditures on an individual project-by-project basis. It also will provide a tool to facilitate the early detection of financial problems and provide program managers with the financial information needed for tighter control over project operations.

The coding of financial data on a project-by-project basis for entry into the Control System started October 1, 1980 and all projects are required to have a capital and operating expense budget in place by the anniversary date of its acquisition by the Department. Since it will take a year to complete this budget formulation phase, no quantitative analysis of the system's benefits is available.

Question: What major alternatives has HUD explored to reduce O&M costs? For example, what is HUD's policy on having purchasers of its multifamily projects perform necessary repair and rehabilitation work? What are the cost implications of having purchasers versus HUD perform the work?

Answer: The Department has studied several alternatives to reduce Operating and Management (O&M) costs. The major one is to have the purchaser repair the multifamily project instead of HUD. However, there are several constraints to this type of sales approach, as follows:

1. The National Housing Act, as amended, requires that the Department return the project to a condition that is decent, safe and sanitary. In order to meet this statutory requirement, the Department must either repair the project itself, or require that the purchaser do the repairs. Should the latter prevail, the only way the Department can guarantee that the purchaser will make the repairs is through the use of a HUD-insured mortgage. Such sales are extremely difficult to achieve. The rapid shifts in the current mortgage market make it unlikely that a bidder will be able to rely on his estimates long enough to complete a sale before changes in the market outdate the bid and force a default on the contract of sale.

2. Unless the sale can take place almost immediately upon acquisition of title, and the project does not enter the Mortgagee-in-Possession stage, repairs will have to be made regardless in order to abate any condition which might threaten the health and/or safety of the tenants.

The cost implications of having purchasers versus HUD perform the rehabilitation work usually involve decisions as to who will finance the repairs. For example, does HUD repair now and sell for a higher price, or sell for a lower price and have the purchaser do the repairs? Most projects, since they serve low-income tenants, require subsidies. In subsidized sales, repairs by the purchaser are, in effect, covered by a higher subsidy level. When the Department sells a project it has fully repaired, a lower subsidy level can be used.

Actions to be Taken:

a. Local Office scheduled review of Small Purchase Activity;
b. Development of an Area Management Broker/Property Manager Handbook; and
c. Development of more rigorous procedures with respect to single family repairs and repair specification preparation.

Proper maintenance of the payment record log mentioned above will prohibit duplicative billing payments. Improved contracting administrative processes and billing procedures will mitigate the possibility of overbillings. Any overbillings discovered are collected through offsets against future contract proceeds. In the absence of contract proceeds, attempts are made to collect by the applicable HUD Field Office staff. Inability to collect by the HUD Field Office efforts results in placement of the HUD claim with the HUD Claims Collections Officer. Specific and detailed procedures are prescribed for the HUD Claims Collections Officer to proceed with the collection of debts.

Several incentives for the professional on-site project manager to provide good and effective management are as follows:

a. The establishment of a project budget gives the manager a specific financial plan and guide for operations. The manager knows that the HUD Field Office is monitoring the operations against the project budget and will follow up on any variations from this Budget.

b. The budget reporting system will identify the payment to or reimbursement of the project manager for improper or disallowed expenditures.

c. Any changes in project income will be apparent and the HUD Field Office will be able to make specific inquiries.

d. In addition to the budget system, HUD staff will perform a comprehensive on-site management review covering each project. This review of the project's books will cover operations, maintenance collections, deposits, expenditures, and account balances.

e. The penalties, in all cases, will range from not being paid for improper expenditures to being dismissed for incompetency.

Question: In April 1979, GAO reported that HUD's Cincinnati Service Office had awarded contracts for grass cutting, painting, and tiling services at prices that appeared inflated by about $920,000 more than would be reasonable, and had paid for services that were either not performed or represented overbillings. HUD's OIG has found similar contracting problems and has stated that such problems represent a serious nation-wide problem. Does HUD view this as a nation-wide problem? What specific steps has HUD taken to prevent unreasonable charges for contracted services at HUD-owned projects? What steps has HUD taken to assure that overbillings are not paid? What steps are being taken to identify and collect payments made for overbillings? What incentives or penalties has HUD developed to encourage on-site project managers at its acquired projects to effectively carry out their responsibilities?

Answer: The grass cutting and tiling contracts awarded by the Cincinnati Office in 1978 are not indicative of a nationwide problem. Those two contracts were awarded through the Small Business Administration (SBA) Section 8(a) contracting process which has been revised to require more stringent management control and oversight. The HUD Inspector General (IG) reported a similar problem, but of lesser magnitude in the Boston jurisdiction. The Department does not know of any other contract similar in nature to the painting contract executed in Cincinnati and the IG has not reported any contract with the deficiencies noted under that contract. The IG recently highlighted a number of procurement problems that might be found in other procurement activities, but each of the deficiencies cited is relatively minor in nature compared to the Cincinnati case except for some findings in Boston. However, the Department does not believe that the IG findings represent nationwide problems similar to those found in Cincinnati. Nevertheless, the Department recognizes the need to improve the efficiency and effectiveness of its field procurement operation as set forth by the IG.

To prevent unreasonable charges for contractual services at HUD-owned projects, specific actions have/or will be taken as follows:

Actions Taken:

a. Improved oversight by Regional and Headquarters staffs;
b. Regional Office approval requirements for those procurement actions which past reports indicate are the more flagrant in terms of deficiency or abuse;

c. Establishment of a HUD Procurement Working Group to study and recommend means of improving the efficiency and effectiveness of the procurement function;
d. Area Manager or Service Office Supervisor approval of certain troublesome procurement activities;
e. Proposed new training courses to improve Contracting Officer performance as well as others involved in the procurement process;
f. Establishment of a payments record log for all contracts requiring more than one payment;
g. Training of Realty Specialists in Small Purchase Activity; and
h. Trial reorganizational alignment of the contracting function in the Field Offices.

Actions to be Taken:

a. Local Office scheduled review of Small Purchase Activity;
b. Training of Realty Specialists in Small Purchase Activity;
c. Trial reorganizational alignment of the contracting function in the Field Offices;
d. Development of an Area Management Broker/Property Manager Handbook; and
e. Development of more rigorous procedures with respect to single family repairs and repair specification preparation.

Proper maintenance of the payment record log mentioned above will prohibit duplicative billing payments. Improved contracting administrative processes and billing procedures will mitigate the possibility of overbillings. Any overbillings discovered are collected through offsets against future contract proceeds. In the absence of contract proceeds, attempts are made to collect by the applicable HUD Field Office staff. Inability to collect by the HUD Field Office efforts results in placement of the HUD claim with the HUD Claims Collections Officer. Specific and detailed procedures are prescribed for the HUD Claims Collections Officer to proceed with the collection of debts.

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d. In addition to the budget system, HUD staff will perform a comprehensive on-site management review covering each project. This review of the project's books will cover operations, maintenance collections, deposits, expenditures, and account balances.

e. The penalties, in all cases, will range from not being paid for improper expenditures to being dismissed for incompetency.

Managing and Servicing Mortgages

Question: Last year we held a series of hearings on t management and servicing of assigned multifamily mortgages. he hearings were based, in part, on a number of GAO recommendations to HUD. These recommendations concern the need for HUD to develop a comprehensive management information system capable of disclosing accurate and timely data; to make expeditious determinations, after assignments, as to whether a mortgage can realistically be brought current or to foreclose; and to make more effective and timely efforts to control project operations once a decision to foreclose is made. GAO also recommended that HUD work with the Department of Justice and the Internal Revenue Service to identify causes for delays in the foreclosure process and to develop ways, including legislative remedies, to shorten the foreclosure time periods and reduce Federal losses. Could you bring us up to date on your activities in this area?

In a January 16, 1980 GAO report, it was disclosed that foreclosures of HUD multifamily mortgages were taking an average of over 2-1/2 years to accomplish. Delays were being encountered at various stages, including HUD's Office of General Counsel and at the Department of Justice. HUD and the Department of Justice have taken several steps to improve the foreclosure process, including the development of a foreclosure tracking system and the development of a model legal instrument for use by the Department of Justice. To what extent have you improved the timeliness of the foreclosure process? Please outline the efforts made to secure statutory authority for faster foreclosures, and any actions taken by Congress on the matters and whether HUD intends to pursue similar legislative proposals in the future.

Answer: The Department has made considerable progress in addressing its own concerns and those expressed by the Senate and the General Accounting Office (GAO) about the management and servicing of assigned multifamily mortgages. Each GAO recommendation and its current status follows:

1. Development of a Comprehensive Management Information System. The Multifamily Insured and Direct Loan Information System (MIDLIS) became operational in March 1980 and is the Department's principal multifamily project information system. In addition, the Office of Loan Management System (OLMS) will provide HUD with basic comparable project operating cost data vital to project monitoring and expenditure analysis. The basic OLMS system is operational and an enhanced OLMS system is being planned.

2. Expeditious Determinations after Assignment as to Whether a Mortgage Can be made Current or be Foreclosed. A chapter of the HUD-Held Mortgage Servicing Handbook has been prepared which includes information for the HUD field staff covering workout arrangement analysis techniques and procedures. In addition, a workout workbook is planned for distribution to the HUD field staff in the Fall of 1981.

3. Make more Effective and Timely Efforts to Control Project Operations Once a Decision to Foreclose is Made. A revised Regulatory Agreement and Management Agreement scheduled for implementation in the Fall of 1981 are expected to assist the Department in preventing poor management in HUD-owned projects.

4. Work with Department of Justice to Improve the Foreclosure Process. HUD has developed a manual foreclosure tracking system and a model legal complaint for use by the Department of Justice to secure earlier possession of projects being foreclosed.

5. Work with IRS. HUD has a reporting agreement with the Internal Revenue Service (IRS) to collect and send data to the IRS on changes in ownership. A computerized data collection system has been developed to provide this information.

6. Legislative Proposals. The Department also made efforts during the previous Administration to secure legislation that would have secured statutory authority for faster foreclosures and exempted HUD-held mortgages from the provisions of the Uniform Bankruptcy Code. Neither of these provisions were enacted and the Department has resubmitted legislation which would facilitate more expeditious foreclosures of insured multifamily projects.

Temporary Mortgage Assistance Payments Program

Question: You are proposing a limitation of $76 million under the Temporary Mortgage Assistance Payments (TMAP) program for payments on behalf of homeowners who have suffered temporary loss of income due to circumstances beyond their control. How have the current economic conditions affected the number of eligible individuals that would qualify for the program? How much could be used under this program if you did not have a limitation?

Answer: The FY 1982 Budget assumes that an estimated 6,300 homeowners initially would receive TMAP assistance in FY 1982 and that $78 million will be obligated for this assistance. These program estimates are based on activity under the current home mortgage assignment program which TMAP will closely parallel and serve as an alternative. Economic conditions as of May 31, 1981 are not expected to significantly affect these program levels which are considered sufficient to accommodate the estimated demand. The Department also will review its FY 1982 estimates as part of its FY 1983 budget planning process and revise its estimates if warranted by economic conditions, program changes, court orders or Congressional actions.

Credit Control

In discussing the Department's attempts to control Federal credit, you state that "While all HUD direct loan, loan guarantee, and insurance programs are included within the system in some manner, not all of them require that the annual appropriation act contain a specific dollar limitation. In some instances, programs cannot be subject to such limitations without serious impairment to other aspects of program operations which ultimately determine the volume of insurance written, direct loans or loan guarantees. Thus, the objecives of Federal credit control may be obtained in some programs without the need for specific dollar limitations".

Question: How have you determined which should be covered by an annual limitaton and which should not?

Answer: Limitation language has been proposed for all direct loan and loan guarantee programs of the Department except for a few dormant programs. Also, the Low Rent Public Housing Loan Fund has been excluded from the Federal Credit Control system because activity in the program is controlled by the amount of contract authority and budget authority provided for Public Housing under the Annual Contributions for Assisted Housing account.

Question: Please identify those programs that will be subject to an annual statutory limitation and those that will not.

Answer: The HUD programs covered under the Federal Credit Control system with specific limitations are the following:

Programs with Limitations	1981 (Dollars in Millions)	1982
Mortgage Insurance Programs (Commitments for Insurance)........................	$34,154.7	$35,000.0
Housing for the Elderly or Handicapped		
(Total Commitments)...................	895.8	850.8
(Net Commitments).....................	830.8	830.8
Nonprofit Sponsor Assistance (Gross New Commitments)...........................	2.3	2.6
Special Assistance Functions (Gross New Commitments)...........................	1,800.0	3,600.0
Guarantees of Mortgage-Backed Securities (Commitments)........................	64,000.0	64,000.0
Section 108 Loan Guarantees (Total Commitments)...........................	250.0	250.0
Rehabilitation Loans (Total Commitments)...................	a/	...

a/ Pursuant to the Supplemental Appropriation and Rescission Act of 1981, loan commitments are limited to amounts of loan repayments and other income in the Rehabilitation Loan Fund.

Programs for which no specific limitation is included are as follows:

- — Low-Rent Public Housing Loan Fund;
- — Emergency Mortgage Purchase Assistance;
- — Urban Renewal program; and
- — New Communities Fund.

Question: How will the Department be able to achieve the necessary credit control on those programs that will not be subject to a limitation set in annual appropriation acts?

Answer: No formal controls are necessary for the Emergency Mortgage Purchase Assistance Program, the Urban Renewal Program or the New Communities Fund since the 1982 Budget does not include any "new" activity for these programs. The amount of total new loan approvals included in the Low Rent Public Housing Loan Fund will be controlled by the number of Public, Indian and Modernization contract and budget authority provided in the Annual Contributions for Assisted Housing appropriation. The contract and budget authority thus provided covers the debt service of total loan approvals. The total amount of loan approvals which can be supported by available contract authority and budget authority will be determined by the prevailing interest rates in 1982. The revised Budget estimates for 1982 includes $5.5 billion of budget authority for Public Housing and Modernization with no additional authority provided for Indian Housing. This is estimated to support $2.5 billion of new loan approvals in 1982.

Accounting Changes

Recently the Office of Management and Budget has revised the method of showing recoveries of prior year obligations. Up to Fiscal Year 1981, recaptures of prior year obligations were netted against new obligations made in the year. In the Fiscal Year 1981 Budget, this practice was changed for all loan programs so that obligations out of recaptured funds were shown as additional program activity. Beginning with the 1982 Budget, all programs will begin to be converted to this basis.

Question: Are the FY 1981 and FY 1982 figures included in your budget justification for the affected programs such as Section 8 calculated using the gross obligation basis? If there are cases where the base is different, please prepare a set of adjusted tables for the record.

Answer: With relatively minor exceptions, all data shown in the 1982 Revised Budget are on a net basis which is the same method that has been used in prior years. Therefore, no adjustments are necessary. The 1982 Budget has continued to report program activity primarily on a net basis, i.e., reflecting the net increase over prior year achievements in unit reservations, starts, and completions. Requests for additional resources also are based on the need for additional net funding as in past years.

The control of total (gross) obligations is an additional limitation which has arisen primarily because of Congressional concern about the reuse of recaptured budget authority, i.e., authority which had been reserved (obligated) in prior years and which subsequently is deobligated and reused. Therefore, in addition to the information previously provided, the Budget now also separately identifies the projected use of recaptured authority. The limitation on the use of recaptures ($5 billion in both Fiscal Years 1981 and 1982) imposes an added funding control over Section 8 and Public Housing, but it does not replace any of the more traditional methods or measures of program accountability.

Criteria For Participation In UDAG

On March 20, 1980, GAO issued a report entitled, "Criteria for Participation in the Urban Development Action Grant Program Should be Refined". In that report, GAO suggests that HUD should:

* Evaluate a broad range alternative to the community distress criteria in order to reduce their redundancy, especially the redundancy between the age of housing, employment growth, and population growth, and population growth criteria.

- Refine the eligibility process by weighing in terms of the severity of distress rather than whether the community is above or below the median.

- Test alternative measurements for three of the current criteria, specifically: Population growth lag, which is now measured over the time period from 1960-1967, which may be too long; Age of housing, which includes all housing, when rental housing may be a better index; And job lag, which is a measure of retail jobs, whereas retail sales may be a better index.

- Obtain and use 1980 census data as soon as it becomes available.

The GAO report indicates that "HUD agreed with GAO's recommendations".

Question: What actions are you taking to implement these specific recommendations and when might we expect to see some changes in the way that eligibility is computed?

Answer: In response to the GAO report entitled, "Criteria for Participation in the Urban Development Action Grant Program Should be Refined", the Department has taken the following actions:

- Made an in-house analysis of several alternatives which used the same six measures of distress but different time frames or different standards. The work is complete and has been analyzed. The analysis indicates that there are no other generally available data that better measure distress.

- Based on the findings of the Urban Institute and in-house studies, HUD will consider what changes should be made in the eligibility process. Any changes would be made in conjunction with the receipt of 1980 data, either late in calendar year 1981 or early in 1982.

- HUD contracted with the Urban Institute for a study of alternative means of determining distress. The work is complete, and the report was provided to GAO for review and analysis.

- Work continues with Census on plans for using 1980 data as soon as possible. The plan is to use new census data on population during 1981 and new data on poverty next year when it is available from the Census Bureau.

Urban Development Action Grants

If the CDBG and UDAG programs are combined, several questions will need to be answered. Let me ask them now.

Question: What adjustments in the CDBG formulas would be necessary?

Answer: No adjustments in the formulas would be required as a result of combining these two programs. The proposed HCD Amendments of 1981, however, would allocate 70 percent to metropolitan cities and urban counties and 30 percent to States for non-entitlement (small cities) communities. These percentages would be applied after deducting the amounts for the Secretary's Discretionary Fund (SDF) and Urban Development Action Grants.

Of the total $4,166 million requested for CDBG, $500 million will be set-aside specifically for action grant projects, which will continue to be approved on a competitive basis as is now the case. In other words, there will be no formula distribution of UDAG funds.

Question: Would UDAG be available to all cities, or would a limited number of cities be eligible?

Answer: UDAG would continue to be available only to a limited number of cities--those meeting the minimum standards of distress, and those which have designated pockets of poverty. Cities also would have to continue demonstrating performance in providing housing for low- and moderate-income people and equal opportunity in housing and employment to be eligible for UDAG-type funding within the Community Development Block Grant program.

Question: Would there be a separate allocation for UDAG-type economic development projects?

Answer: There would be a separate "allocation" of $500 million for Urban Development Action Grant-type projects. This $500 million of CDBG money for UDAG would be administered essentially as UDAG is now administered.

Question: Would UDAG-type funding still be categorial in nature?

Answer: UDAG funding would be categorical in that large and small cities would continue to submit applications for specific economic development projects that leverage private investment and provide jobs and taxes. Funding decisions would still be made in HUD Headquarters, on a competitive basis, by approving those projects best meeting the UDAG selection criteria.

Question: Would leveraging still be required for UDAG-type economic development projects, and would front end commitments by private industry still be required?

Answer: We would expect to continue leveraging private dollars at the present rate of $6.10 of private funds for each Action Grant dollar. No Action Grant will be approved unless there are firm commitments, up-front, from private businesses.

Question: If CDBG and UDAG are combined, what are the implications within HUD for staffing levels?

Answer: The staffing effect of combining CDBG and UDAG will depend upon future policy regarding application review and the monitoring of approved projects. The Administration is continuing efforts to reduce Federal involvement in CDBG processes. It can be anticipated that, with a given volume of UDAG funding as a set-aside within the CDBG program, the staff requirements will be lessened in the future.

Question: If funding cuts are to be made when the CDBG and UDAG programs are combined, where will the cuts occur?

Answer: The combined programs will have a funding level of $4,166 million in 1982. Of this amount, $500 million is for action grant projects. This is a reduction of $175 million below the amount of UDAG funding available during fiscal year 1981. The $3,666 million for CDBG is a decrease of $28.6 million from the amount available in 1981.

Question: If the UDAG program or something similar to it is to continue, should certain elements of the current program (funding of small cities, pockets of poverty, and neighborhood projects) be dropped?

Answer: The Administration has proposed to continue the present UDAG set-aside of 25 percent of funds appropriated being for cities under 50,000 population that are not central cities of metropolitan areas. We also propose to retain the present provisions with respect to funding for pockets of poverty. However, because we are convinced that we must use our limited UDAG resources to fund those projects which provide the maximum economic benefits to cities, we have proposed elimination of the "reasonable balance" requirement. "Reasonable balance" in the present statute requires that about one-third of the projects approved be neighborhood projects, and we have found that many projects in this category have had limited economic impact. We will continue funding neighborhood-type projects based on potential economic impact.

Question: Is there a need to further target UDAG funding to the most distressed cities so that enough resources will be available to produce visible long-term improvements in a reasonable time period?

Answer: The program presently is targeted in two ways. First, only cities meeting the minimum standards of distress--and cities having pockets of poverty--may apply for UDAG assistance. Second, the primary competitive selection factor for choosing projects to be approved is the relative distress of the city. To date, 60 percent of Action Grant funds have gone to eligible cities in the top two quartiles on distress. The Department believes there is a need to continue both forms of targeting under the revised program and that no further targeting is needed since the program is providing long-term improvements.

Question: If the UDAG program is continued, is there a need to better assure that funds are used only for projects which would not otherwise be funded?

Answer: We intend to take any additional steps necessary to assure that funds used for UDAG-type projects are provided only for projects that cannot proceed without public assistance, and that UDAG funds do not substitute for local monies available for a project. Section 107(c)(10) of the proposed Housing and Community Development Amendments of 1981 specifically addresses this matter. Further, we also have proposed a new statutory provision that UDAG funds approved must be the least amount necessary to get a particular project built (proposed Housing and Community Development Amendments of 1981, Section 107(c)(11)).

Question: Will there be a need for a flexible grant mechanism such as UDAG (to complement the enterprise zone concept) if the enterprise zone concept becomes a reality; and should such a flexible program be federally funded or city funded?

Answer: It is envisioned that State and local governments may choose to utilize some CDBG and/or UDAG funds to strengthen their enterprise zones. Any other possible programs will have to await an intensive evaluation of the enterprise zone concept.

Secretary's Discretionary Fund

Your proposed legislation for the Secretary's Discretionary Fund is for $60 million for each of fiscal years 1982 and 1983. This represents a reduction from current levels of $104 million for fiscal year 1982 and $107 million for fiscal year 1983. The Bill would expand the Technical Assistance category to include "special projects".

Question: Could you please explain the types of "special projects" likely to be conducted in fiscal year 1982 and the funds required for each?

Answer: The proposed HCD Amendments of 1981 narrow the purpose of the Secretary's Discretionary Fund to provide grants to recipients whose unique circumstances or activities require special attention. One of the categories proposed for elimination in 1982 is Innovative Grants. However, it is essential that the Department retain some authority to respond quickly to unforeseen events, such as the needs of Atlanta for investigative efforts related to murdered and missing children. (The President pledged $1.5 million from the Department's Innovative Grant program to Atlanta in April 1981.) No special projects are planned for fiscal year 1982, nor have funds been earmarked for this purpose. All Technical Assistance program funds have been budgeted for normal programmatic activities. Nevertheless, should the need arise for a special project, funds could be reprogrammed from other priority efforts.

The Technical Assistance category would be continued under the proposed Amendments and would permit funding for "special projects", designed to replace the Innovative category.

Section 701 Comprehensive Planning Assistance

Question: It now appears that FY 1981 is the last year for the funding of the Comprehensive Planning Assistance program. What evidence does the Administration have that States and localities will be willing to provide funding to Areawide Plannning Organizations so that these organizations can continue to perform areawide and interregional planning?

Answer: Over 27 states now provide funds to Areawide Planning Organizations for planning. Localities continue to contribute funds to these associations of local officials as they demonstrate savings and benefits that result from such planning.

Question: According to HUD, most of the 500 small units of local government who are schedule to receive about $5 million of the program's fiscal year 1981 authorization do not receive community development block grant funding. Accordingly, what is the liklihood that these communities have sufficient resources to support the types of planning activities formerly funded by the Section 701 program?

Answer: Due to limited Section 701 resources and the large number of eligible small communities, only two to three percent of the 33,141 eligible applicants received Section 701 assistance in any fiscal year. Therefore, many communities use State and local resources to fund their planning needs under the program as it has been working over the past years. It is expected that when important issues are raised, communities will continue to use State and local resources to meet their planning needs.

New Communities

Question: What is the current status and FY 1982 plans for the New Communities program?

Answer: As of April 1, 1981, thirteen new communities had received loan guarantees and another three had been determined to meet the requirements for Certificates of Eligibility by which assistance, other than loan guarantees, may be provided. Of the thirteen loan guarantee new communities, nine have been or are in the process of being acquired by HUD. Of these, five have been fully or partially disposed of and it is anticipated that one or two more will be disposed of during the remainder of fiscal year 1981. It is hoped that, with some restructuring of their financial obligations, the remaining four new towns can continue to develop as Title VII projects.

In fiscal 1980, some $11 million in Title I grant assistance was awarded to the four ongoing new towns. We believe that continued Title I assistance, although at a somewhat reduced level, is necessary to enable the successful completion of and to protect the Federal investment in these new towns.

The efforts of the Corporation have been focused on resolving the financial problems of many of our ongoing projects to assist them in meeting goals and objectives of Title VII. It is this Department's policy with regard to the New Communities program that projects which are determined not to be financially feasible should be closed out, and viable projects should be maintained.

Neighborhood Self-Help Development Program

Question: Is HUD convinced that the types of neighborhood organizations currently served by the Neighborhood Self-Help Development program will be able to beneift from the Neighborhood Reinvestment Corporation and CDBG programs?

Answer: The programs of the Neighborhood Reinvestment Corporation and Community Development Block Grant (CDBG) will substantially cover the neighborhood revitalization resource needs of the types of organizations that are currently served by the Neighborhood Self-Help Development program. The Neighborhood Self-Help Development program has served neighborhood-based, broadly representative, non-profit organizations. Such neighborhood-based organizations are eligible recipients of funds for the CDBG program. These same organizations are also eligible to participate in the programs of the Neighborhood Reinvestment Corporation, although such participation usually involves the creation and spinning off of another organization consisting of neighborhood residents, local officials and lenders.

Question: What HUD guidance is being proposed to ensure that neighborhood organizations will continue to participate in neighborhood revitalization?

Answer: Neighborhood development organizations are being informed of their eligiblity for CDBG entitlement funds, and are encouraged to apply to their local governmental jurisdictions for block grant assistance.

Question: Since the characteristics of those neighborhoods participating in the Neighborhood Reinvestment Corporation program differ from those involved in the Neighborhood Self-Help program, will HUD urge the corporation to change its criteria for neighborhood selection to ensure more diverse neighborhood participation?

Answer: The Neighborhood Reinvestment Corporation's neighborhood housing services program has enjoyed great success over the past five years as a model for encouraging and stimulating greater conventional lending in inner city neighborhoods. This success is partly due to the fact that the corporation has targeted its programs to neighborhoods which are in incipient decline, but are stable enough to retain owner-occupants and attract new homeowners.

HUD will not urge the Neighborhood Reinvestment Corporation to change its criteria for selection of participants since the success of the program is dependent on carefully selecting areas which exhibit these characteristics.

Question: In the absence of the Self-Help program will neighborhood organizations from rural areas be neglected?

Answer: No. Neighborhood development organizations are being informed of their eligibility to apply to their local government for CDBG funds. Additionally, rural organizations are eligible and encouraged to apply for more traditional sources of funds for rural development like the Farmers Home Administration.

Question: Will HUD require programmatic changes in the CDBG program to ensure greater diversity of neighborhood revitalization activities similar to those funded under the Self-Help program?

Answer: No, under CDBG regulations, neighborhood-based nonprofit organizations have very broad authority. While the Neighborhood Self-Help Development program defined eligible organizations in highly specific and rigid terms, the definition of neighborhood-based nonprofit organizations at 24 CFR 570.204 is broader and more general. Any organization and activity eligible under the Neighborhood Self-Help Development program will qualify under CDBG regulations. Neighborhood organizations, however, could only receive funds at the discretion of their local government.

Housing Assistance Council

Question: How much have you included in FY 82 for the Housing Assistance Council (HAC)? How does this compare to the FY 1981 level and what activities do you expect HAC to perform in FY 1982? At what level are you funding the Housing Assistance Council in Fiscal Year 1981? At what level do you anticipate funding the Housing Assistance Council in Fiscal Year 1982?

Answer: The Department is providing $1,050,000 to HAC in Fiscal Year 1981 as directed by the Senate Committee on Appropriations. The Department has not specified the funding to be provided to HAC in Fiscal Year 1982. However, all of the Research and Technology funded projects, including HAC, are being examined to see whether reductions in funding are appropriate. The Department expects HAC to perform the following activities in Fiscal Year 1982: (1) administer a revolving loan fund serving as seed money to producers of low-income housing in rural areas; (2) conduct a training program to help develop the institutional capacity and expertise of those involved in the delivery of subsidized rural housing; (3) conduct a technical assistance program for loan recipients and all groups working in low-income housing problems; and (4) perform a public information service involving rural issues and proposed legislation.

Fair Housing

Last year we provided $5,700,000 for your Fair Housing and Equal Opportunity Program. Part of the original plan entailed funding 130 Community Housing Resource Boards (CHRBs).

Question: What resources have been provided to CHRBs to date during FY 81?

Answer: We have not provided any funds to CHRBs to date. Interim regulations to fund CHRBs have been developed and placed in Departmental clearance, and are expected to be submitted to the Congress shortly. Once the regulations are approved, we expect to begin funding immediately thereafter.

Your FY 82 budget proposes the same $5,700,000 level. However, you expect to be able to support 70 State and local agencies -- up from the 57 in FY 81?

Question: At what level will you be able to support these agencies during FY 82 vs. FY 81?

Answer: In 1982, we expect to funds agencies at a level comparable to the 1981 level. The Department did not request an increase in funding in 1982 because:

--certain components of the program involving one-time expenses will have been accomplished for those agencies which participated in the program in 1980 and 1981.

--the additional 13 State and local agencies will not need a high level of assistance due to the fact that most will be localities with smaller complaint workloads.

--it is also unlikely that those agencies attaining eligibility near the end of the fiscal year will simultaneously apply for Fair Housing Assistance Program (FHAP) funding during the year in which they attain eligibility.

In your January budget, you expected to receive 7,000 and process 6,800 Title VIII complaints. Your revised budget includes estimates of 6,100 and 6,340 respectively.

Question: Could you please explain these differences in your estimates?

Answer: We know as a result of a recent HUD study that minorities encounter 2 1/2 million instances of discrimination. Our original budget estimates assumed that our comprehensive program--including the rapid response and systemic complaint processing techniques, Fair Housing Assistance Program and increased outreach efforts-would be fully implemented in 1981. This has not been the case, however, and our revised estimates reflect more accurate data. The Fair Housing Assistance program had a slower start than estimated due to the regulation clearance processes. Also, the remaining five systemic units just recently became operational--during the second quarter of this fiscal year.

Staffing

Question: In January you identified 17,314 staff-years of employment associated with your FY 82 Budget. Your revised budget contains a request for 16,233 staff-years.

Please indicate the difference in staffing for each of your activities and sub-activities and briefly explain the Department's rationale for each of the changes.

Answer: The table below identifies the difference between HUD's January staff-year estimates and the revised budget estimates for FY 1982 for each activity. It is followed by brief explanations for each of the changes.

	FY 1982		
	Initial Estimate	Current Estimate	Difference
Housing	8,297.6	7,905.6	-392
Government National Mortgage Association	63.1	62.1	-1
Solar Energy and Energy Conservation Bank	26.0	...	-26
Community Planning and Development	1,934.7	1,661.7	-273
New Community Development Corporation	42.1	42.1	...
Neighborhoods, Voluntary Associations, and Consumer Protection	381.8	173.8	-208
Policy Development and Research	249.3	221.3	-28
Fair Housing and Equal Opportunity	668.5	644.5	-24
Departmental Management	172.6	172.6	...
Office of General Counsel	244.9	241.9	-3
Field Legal Services	335.9	335.9	...
Office of Inspector General	554.8	554.8	...
Administration and Staff Services	1,710.9	1,642.9	-68
Working Capital Fund	450.5	440.5	-10
Field Direction and Operational Support	748.7	718.7	-30
Field Administration	1,432.6	1,414.6	-18
Total	17,314.0	16,233.0	-1,081

Initial estimate	17,314.0
Housing - to reflect the impact of reductions in Subsidized Housing, FHA Mortgage Insurance, and other housing programs	-392.0
Solar Energy and Energy Conservation Bank - to reflect termination of the program	-26.0
Community Planning and Development - to reflect the proposed termination of the Section 312 Rehabilitation Loan Program and the Section 701 Comprehensive Planning Grant Program	-273.0
Neighborhoods, Voluntary Associations, and Consumer Protection - to reflect the proposed reduction in the Housing Counseling Assistance and Neighborhood Self-Help Programs	-208.0
Policy Development and Research - to reflect reduced program levels	-28.0
Fair Housing and Equal Opportunlity - to reflect reduced workload	-24.0
Administration and Staff Services - to reflect the impact of staff and other support reductions	-68.0
Working Capital Fund - to reflect the impact of staff and other support reductions	-10.0

Field Direction and Operational Support - to reflect reduced program and staffing levels...............	-30.0
Field Administration - to reflect the impact of reduced program and staffing levels...............	-18.0
All Other - to reflect the impact of general staffing reductions....................................	-4.0
Current Estimate....................................	16,233.0

Administration and Staff Services

This year you are requesting $99,247,000 for Administration and Staff Services. This is an increase of $8,910,000 over the FY 1981 level.

Question: Please describe each of the items within this activity that you are requesting increases for in FY 1982 and indicate the reason for the increase.

Answer: The following table identifies the categories which comprise the increase of $8,910,000--from $90,337,000 to $99,247,000--requested for Administration and Staff Services in FY 1982 as compared to FY 1981. It is followed by an explanation of the changes.

ANALYSIS OF INCREASES AND DECREASES

	(Dollars in Thousands)
FY 1981 Obligations............................	$90,337
Impact of October 1980 pay increase...........	+48
Cost of within-grade increases................	+610
Changes in average personal services costs....	-582
Increase in payment to the Employees' Compensation Fund, Department of Labor......	+237
Changes in travel costs.......................	+339
Changes in:	
Office space rental payment to GSA..........	+6,042
Federal Telecommunications System payment to GSA..................................	+112
Penalty mail payment to the Postal Service..	+182
Other communications and equipment rentals..	+410
Changes in printing costs.....................	+766
Changes in automated data processing services.	+874
Changes in Special Contracts..................	-463
All other changes.............................	+335
FY 1982 Budget Request........................	$99,247

EXPLANATION OF INCREASES AND DECREASES

It should be noted that the estimates generally reflect the rising costs of goods and services rather than an increased level of goods and services.

The full-year impact of the pay raise approved in October 1980 will require an additional $48 thousand.

An increase of $610 thousand is provided for within-grade salary increases for employees.

Changes in personal services costs due to changes in average salary result in a decrease of $582 thousand.

The mandatory annual payment made to the Department of Labor for the Employees' Compensation Fund increases $237 thousand in 1982.

Additional travel requirements and anticipated increases in the cost of travel require an increase of $339 thousand in 1982.

Payments for mandatory items to the General Services Administration (GSA) and the Postal Service are estimated to increase as follows:

	SPACE RENTAL	FEDERAL TELECOMMUNICATIONS SYSTEM	PENALTY MAIL
	(Dollars in Thousands)		
1981.............	9,557	1,581	2,570
Increase.......	+6,042	+112	+182
1982.............	15,599	1,693	2,752

Space rental funding is based upon estimates provided by the General Services Administration, which is reimbursed for such costs. Headquarters space rental costs are estimated to increase $6,042 thousand in 1982. The relatively large increase reflects the triennial rate reappraisal cycle of the GSA, by which the rates of one-third of their office space inventory are adjusted on the basis of current market rental rates. The rental cost of the HUD Headquarters building--which is funded in this activity and for which the rental cost has been the same since 1979--is subject to an increase of $5,182 thousand in 1982 as a result of this reappraisal policy. The balance of the increase reflects the impact of the same policy on other HUD rentals and associated costs which fall under this activity.

Estimates provided by the GSA indicated that the cost of utilizing the Federal Telecommunications System will increase $112 thousand in 1982. a/

Penalty mail reimbursements to the Postal Service are estimated to increase $182 thousand.

Other communications and equipment rental costs include local and long-distance telephone other than FTS, telephone installations, messenger services, teletype and other miscellaneous communications costs, and the rental of quick copy and word processing equipment. Such costs are estimated to increase $410 thousand in 1982. The changes reflect both the usage level and rate changes for equipment rentals and rate increases for communications services.

Printing costs are estimated to increase $766 thousand during 1982. The additional funds are required due to increases in the costs of labor and materials and for handbooks, manuals, forms, and other printed matters associated with the phase-in of the HUD Mortgage Insurance Accounting System (HUDMIAS).

a/ We were advised on May 8, 1981 by the GSA that an additional $4 million will be required for FTS due to recent advice on significant rate changes. Funds for this increase are not included in the proposed budget. The additional $4 million results in a requirement for an additional $1,084 thousand in this activity and an additional $2,916 thousand for the activity "Field Administration."

The cost of automated data processing (ADP) services is estimated to increase $874 thousand in 1982. The increase in 1982 is primarily related to the installation of the HUD Mortgage Insurance Accounting System (HUDMIAS), major modifications to accommodate the incorporation of low-rent housing accounting information into the Assisted Housing Accounting Systems (AHAS), and the mandated changes required by the Office of Personnel Management to the Terminally Operated Personnel/Payroll System (TOPPS).

Obligations for Special Contracts are estimated to decrease $463 thousand in 1982. The decrease in 1982 reflects a $887 thousand decrease in requirements for HUDMIAS, partially offset by net increases for other items--principally for development efforts related to the Department's participation in the Federal Information Locator System (FILS) and the conduct of an evaluation required by the Congress of the field reorganization implemented during 1978 and 1979.

Changes for all other support costs, such as furniture and equipment procurement, training, equipment repairs, and health services, result in a net increase of $335 thousand in 1982.

Question: Also provide a list of the savings made in these activities from the original January request of $103,036,000.

Answer: The following is a list of the reductions, totaling $3,789 thousand, made to the January request of $103,036 thousand.

	(Dollars in Thousands)
January Request	$103,036
Reductions in personal services costs due to the reduction of 61 positions and 68 staff-years	-1,748
Reductions in travel costs	-206
Reductions in printing costs	-401
Reductions in automated data processing services	-1,002
Reductions in training contracts	-404
All other reductions	-28
Current FY 1982 Request	99,247

Fourth Quarter Obligation Limit

Section 414 of our FY 81 Appropriations Act specifies that you may not obligate more than 30 percent from any program or activity during the fourth quarter without an OMB waiver. In your opening statement, you note that you have requested such a waiver for a number of accounts.

Question: What accounts are these and why were these waivers required?

Answer: Waivers for Last Quarter (30 percent limitation):

Annual Contributions for Assisted Housing
Public Housing Modernization
Public Housing Operating Subsidies
Housing for the Elderly or Handicapped
Community Development Block Grants
Research and Technology
Fair Housing Assistance Program

Waivers for Monthly Limitation Only (15 percent Limitation):

Urban Development Action Grants

Waivers were requested for the eight accounts for the following reasons:

Annual Contributions for Assisted Housing

The pre-reservation processing requirements under Section 8 are complex and time consuming. Because of the lag-time needed to assign funds, prepare area allocation plans, advertise for proposals, receive and review local and area-wide comments, and process and rank applications, most obligations typically occur in the last quarter. Despite an improvement in commitment rates over past fiscal years, a considerable amount of obligations will still occur near the end of the fiscal year. Development activities under the Public Housing program also are subject to the same processing constraints as Section 8.

Public Housing Modernization

The Public Housing Modernization program enables PHAs to obtain capital funds for the purpose of upgrading living conditions in older PHA-owned projects to present-day standards, correcting serious physical deficiencies and achieving operating efficiency and economy. $460 million of the budget authority has been assigned to PHAs that received only partial funding of their 1980 comprehensive requrements in 1980. The funds will be obligated by June 30. The remainder of the funds will be obligated in September under new regulations implementing the Comprehensive Improvement Assistance Program (CIAP). Regulations must be published HUD field and PHA staff trained, PHA applications developed and submitted, and HUD processing and approval completed. Almost all of the obligations will be incurred in September.

Public Housing Operating Subsidies

Funds for Low-income Public Housing operating subsidies are obligated on a quarterly basis and are based upon the fiscal years of local housing authorities. 70 percent of the funds are expected to be obligated by June 30 but the remaining 30 percent will be obligated in September, thereby exceeding the 15 percent monthly limitation for any month in the fourth quarter. The obligations in September provide funding to PHAs with fiscal years beginning October 1, 1981 and normally occur in September.

Housing for the Elderly or Handicapped (Section 202)

Due to the nature of nonprofit organizations and the fact that site control is required to submit an application, 2-3 months must be allowed to prepare and submit aplications. To allow for an orderly review process in the field offices and for minimal review of selections in Headquarters to assure that various Congressional requirements are met (i.e., at least 20 percent of funds to non-metropolitan areas and $50 million for housing for the nonelderly handicapped), as well as Departmental goals for participation by minority sponsors, the decisions cannot be announced any earlier than the fourth quarter. To cut down on the time for any segment of the process would cause serious public relations problems with the sponsors or impair the Department's ability to perform adequate reviews.

Community Development Block Grants (CDBG)

In this program, the pattern of obligations for Entitlement block grants is a direct function of the program year cycle selected by grantees themselves. A waiver is required for the Entitlement program because without the waiver the Department would be compelled to direct a number of grantees to modify their locally determined program cycle. Such a requirement runs counter to the CDBG program's emphasis on local discretion. Because of the Small Cities funding cycle, it is nearly impossible to obligate the funds any earlier.

Urban Development Action Grants

Obligations for the June metro round will occur in August and September. It is very likely that the obligations occurring in one month, probably August, will exceed 15 percent of the total FY 1981 obligations due to the overlap of the obligation periods of the two funding rounds and the fact that the total dollar amount of projects funded in a metro round is usually at least double the dollar amount of projects funded in a small cities round.

Research and Technology

We have experienced a delay of two and one-half months in the normal flow of our funding actions. Since contract processing time can range from 150 to 200 days depending on whether an action is competitive or not, a waiver is necessary to preserve the time necessary for competitive awards.

Fair Housing Assistance Program

The state and local agencies component of the Fair Housing Assistance program was first implemented in September 1980. Agencies participating in the program were awarded one year contracts with continued funding to be provided on a yearly cycle. Therefore contracts expiring in September and October will be eligible for renewal in August and September to avoid any disruption for the program.

For the Community Housing Resource Board component, which was authorized for the first time in the HUD 1981 Appropriation Act, program implementation is not expected to occur before September.

Section 414 of our FY 1981 Appropriations Act specifies that you may not obligate more than 30% from any program or activity during the Fourth Quarter without an OMB waiver. In your Opening Statement you note that you have requested such a waiver for a number of accounts.

Question: If Congress provides the additional $300 million for PHA Modernization, would you apply for a waiver and do you have any assurance that OMB would grant that waiver?

Answer: If the Congress provides an additional $300 million, the Department would request a waiver. As for the second part of the question, the Department is not in a position to predict the final decision of the Office of Management and Budget (OMB) on such a waiver.

SES Bonuses

Question: How much have you included in your budget request for SES bonuses during FY 82?

Answer: The fiscal year 1982 budget request includes $215,000 for bonuses for members of the Senior Executive Service.

QUESTIONS SUBMITTED BY SENATOR HUDDLESTON

Fiscal Policy Issues

Question: The housing industry is greatly affected by a number of issues outside of HUD's direct responsibility -- interest rates, tax proposals, depreciation policy, to name a few. Is HUD being adequately consulted as the Administration develops policies in these areas? Can we expect any tax or depreciation proposals which would really help the industry?

Answer: Yes, the Department is being kept informed of the Administration's overall monetary and fiscal policies and has been given ample opportunity to comment on these proposals. The major Administration tax and depreciation proposals have been well publicized and the Department supports them. There are no other proposals specifically aimed at the housing industry in particular and the Department would prefer to avoid a piecemeal approach to tax policy. Nevertheless, the housing industry should be a primary long-run beneficiary of the more general tax revisions now being proposed which are expected to result in more rapid depreciation and lower interest rates.

Question: With the high yield attraction of money market funds, how can pools of mortgage money be attracted back to the money lending industry institutions?

Answer: The Administration believes that increased savings and investment will occur if the budget and tax proposals are enacted promptly. Although an adequate supply of capital for the housing industry can never be assured, it is absolutely essential that the current inflationary spiral be altered to provide the proper climate to provide capital. The primary difficulty in attracting long-term capital to the mortgage market has been the concern by potential investors of the inflationary impact. This same fear also has caused the record high yield in the short-term money markets as well.

In addition, owing to the 1980 legislation relating to depository institution deregulation, the Nation's thrift institutions are undergoing profound changes with respect to their share of savings flows and the kinds of assets that they are adding to their portfolios. As a result, a shift in the mortgage market is occurring with an increasing proportion of the funds supplied for residential mortgage loans coming from funds raised in the securities markets. Conversely, the proportion of funds coming from thrift institutions has declined. While part of the explanation can be attributed to the sharp growth of money market funds, other forces also are changing the role of thrift institutions as a source of mortgage loan funds for housing.

Section 235 Homeownership Assistance

Question: If mortgage limits are not increased under Section 235, do you have any idea as to when we could expect a reallocation? If limits are increased, do you expect current holders of allocations to be able to utilize all the funds they have?

Answer: The regulations increasing the Section 235 maximum mortgage limits were published in the Federal Register on June 1, 1981 and will become effective on July 13, 1981. Under procedures currently being developed, definitive time schedules will provide for the use of uncommitted allocations by Field Offices currently holding unused authority. It is anticipated that unused authority will be reallocated by September 1, 1981 to those Field Offices which have exhausted their current allocations.

Question: There are some fears that the continuing delay in utilizing Section 235 funding will lead to its being withheld or rescinded. Do you see this as a possibility?

Answer: The Department is making every effort to make certain that there are no delays in the use of authority. The plan to reallocate unused authority by September 1, 1981 will ensure that areas where Section 235 authority can be used immediately are not adversely affected by the planned termination of the program at the end of FY 1981.

Question: What is the current status of the Section 235 recapture program?

Answer: Regulations implementing the recapture provisions were published in the Federal Register on May 27, 1981 for immediate effect.

Question: It has been suggested that to eliminate the Section 235 program is to discriminate against urban areas since rural areas will retain a subsidy program under the Farmers Home Administration (FmHA). How do you feel about that?

Answer: The Department does not support the suggestion that to eliminate the Section 235 program is to discriminate against urban areas. Housing needs in both urban and rural areas are being addressed. The Section 235 program is only one aspect of meeting national housing needs. At this time, urban housing needs are being addressed through the Department's multifamily housing programs. In rural areas, where population is not as concentrated, the homeownership program of the Farmers Home Administration represents an effective tool to provide housing.

Question: With housing costs and interest rates where they are--or even if they decline slightly--do you believe homeownership is a real possibility for lower-income persons? At what income level and with what housing cost and interest rate assumptions do you believe homeownership is feasible today?

Answer: Given the diversity of housing markets across the nation, there is no way of determining a specific interest rate or income level at which homeownership would be feasible. "Feasibility" would vary with each and every market. There is no question that housing costs and high interest rates have made it difficult for lower income persons to purchase a home. In fact, current interest rates preclude the vast majority of potential home buyers from homeownership. Only when interest rates decline significantly will homeownership be within reach of a large portion of the population. While there is no simple solution to this problem, the President has appointed a Housing Commission which is a first step toward providing long term solutions to what is a long term problem--homeownerhip opportunity for all income groups.

Question: Until the catastrophic conditions in the housing industry subsides, why not continue the single family Section 235 program for small builders on a temporary basis?

Answer: The cost of the Section 235 program in today's market is prohibitive and does not justify the expense under the President's Economic Recovery Program to provide preferential treatment for a segment of the economy. Since every faction of the housing industry has been negatively affected by current economic conditions, justifications could be furnished in support of Federal assistance to each group. Nevertheless, the Administration is committed to finding permanent solutions to these problems which over the long run will aid not only small builders but also other constituencies as well.

Question: Would it be possible to lower the Section 235 subsidy amount and include a payback provision to make the program more acceptable to the Administration?

Answer: Considering the cost of homeownership in today's market, lower-income families could not realistically afford mortgage payments at rates much above those now provided. Lowering the Section 235 subsidy would mean that only those families with incomes considerably higher than those now being served could possibly cover the higher monthly mortgage payments that would be required. The subsidy program would then serve middle-income homebuyers which is not in accordance with the primary objective of the Section 235 Homeownership Assistance program.

While a payback or recapture provision is already in operation, it will probably be some time before any amount of assistance is recouped. In the meantime, there are insufficient funds available to defray the immediate costs of the program. In addition, the budget authority for each loan must be established at origination. The long-term obligation which must be assumed at origination for the purchase of a house costing $40,000 involves a potential expenditure of $100,000. Although there is a strong possibility that the subsidy will not be required beyond the first ten years of the mortgage based on previous experience under the program, the budget authority must be reserved for the full 30-year term under existing budgeting requirements.

Community Development Block Grants

State CDBG Program/Secretary's Discretionary Fund

I may be one of the few persons outside of HUD with an interest in State administration of the Small Cities program. We used it in Kentucky this year, and it seems to have worked rather well.

Question: Could Section 107 Technical Assistance funds be used for administrative costs?

Answer: Under current program regulations at 24 CFR 570.402(b)(1), "'Technical Assistance' is defined as the transfer of skills and knowledge in planning, developing and administering local Community Development Block Grant (CDBG) or Urban Development Action Grant (UDAG) programs from qualified governmental entities, private organizations, and individuals to eligible CDBG and UDAG applicants and participants which need such skills and knowledge." (Emphasis added.) Therefore, according to these regulations, funding of administrative costs for normal program operations would not be permissible with Technical Assistance funds.

HUD's Office of General Counsel has been requested to issue a legal opinion as to whether such use of Technical Assistance funds is permissible under Section 107(a)(8) of the Housing and Community Development Act of 1974 (42 U.S.C. 5307), as amended. We will inform the Committee of this legal opinion once it is rendered.

Question: Will Imminent Threat funding still be available?

Answer: The Administration's legislative proposal does not contain a provision for Imminent Threat grants. This is in keeping with the objective of enabling states to have maximum flexibility to design a program which will best address their community development needs. However, in designing its program, a State could include such a provision if it wished to do so.

Question: What provisions will be made under the Secretary's Discretionary Fund to assist disaster stricken communities?

Answer: The President's legislative proposal reduced authorization levels for the Secretary's Discretionary Fund as a part of his program for economic recovery. These reductions reflect the elimination of several programs under that Fund, including the Disaster Assistance program.

The primary vehicle for providing assistance for federally recognized or Presidentially declared disasters will continue to be through the President's Disaster Relief program that is coordinated by the Federal Emergency Management Agency (FEMA).

Question: What is meant by the adminstrative change which allows the Secretary to adjust Community Development Block Grants to States and/or provide assistance directly to local governments?

Answer: Under the Administration's proposed legislation, the Secretary's authority to adjust Community Development Block Grants to states is similar to the corrective and remedial actions in the current program. There is no provision in the Administration's proposed legislation for HUD to provide assistance directly to local governments where funds have been adjusted, reduced, or withdrawn from the state. Instead, those funds would be added to the amounts in the State set-aside for distribution by formula in the succeeding fiscal year.

Use of Authority for Annual Contributions for Assisted Housing

Question: What is the status of FY 1981 obligational authority for the Section 8 program?

Answer: As of May 31, 1981, net contract authority of $163,305,633 and net budget authority of $2,786,857,963 had been reserved in FY 1981.

Question: The 1981 Supplemental Appropriations and Rescission Bill is moving toward enactment, hopefully early in June. How soon after enactment will the Field Offices have the ability to obligate 1981 contract authority for new and substantially rehabilitated projects?

Answer: HUD Field Offices have had the authority to obligate authority for FY 1981 since October 1, 1980 based first on the Continuing Resolution (H.J. Res. 610) and later on the 1981 HUD-Independent Agencies Appropriation Act (P.L. 96-526) enacted December 15, 1980. On March 10, 1981, a freeze was placed on the authority of Field Offices to make reservations for Section 8 private developer-new and substantial rehabilitation units in addition to other limitations. It is expected that the Field Offices will have the ability to make make new and substantial rehabilitation contract authority and budget authority obligations in these categories within several weeks after the enactment of the 1981 Supplemental Appropriations and Rescission Bill.

Question: On the basis of experience to date, do you expect to meet the revised FY 1981 unit reservation projections?

Answer: The FY 1981 revised estimates contained in the 1982 Revised Budget indicated that 210,000 units would be reserved during FY 1981. As of May 31, 1981, only 27,556 units (net) had been reserved. Based on prior year experience, the last quarter of the fiscal year normally is the period when most reservation activity takes place. This year, limitations were imposed on fourth quarter obligations by Section 414 of the 1981 HUD-Independent Agencies Appropriation Act (P.L. 96-526). However, HUD has sought, and been granted, a waiver of the fourth quarter limitation from the OMB for several programs including the Section 8 program. For these programs the normal cycle of making funds available, advertising fund availability, processing applications, evaluating feasibility, and making program reservations means that obligations occur in the fourth quarter. Therefore, a significantly greater portion of the units is expected to be reserved during the fourth quarter than has been reserved as of May 31, 1981.

Whether or not the reservation level projected in the revised 1981 Budget can be reached will depend on a number of factors, including interest rates and inflation rates during the remaining four months of the fiscal year.

Mortgage Revenue Bonds

Question: A number of areas are awaiting the regulations on the Mortgage Subsidy Bond Act of 1980. Has HUD been in contact with the Treasury Department regarding these regulations? Have you had any input? What has the input been? Do you know when the regulations will be issued?

Answer: At the request of the Treasury Department staff, HUD staff has provided assistance and advice on three subjects relating to the Mortgage Subsidy Bond Act of 1980 where HUD has special competence. These subjects include: the manner of determining the average area purchase price for existing properties, the manner of establishing State ceilings for the issuance of tax-exempt bonds, and the manner of determining target area residence. The regulations are expected to be issued by the Treasury during June 1981.

Question: Do you believe there is a role in the housing field for Mortgage Revenue Bonds? Do you believe the 1980 Act sets out the proper role?

Answer: HUD believes that there is a role for Mortgage Revenue Bonds to help finance housing. This role is to use the tax expenditures implicit in tax-exempt bond issues to help subsidize the housing needs of the lower-income segment of the American population. This objective is largely carried out by the 1980 legislation.

Question: How important do you think the new legislation is in financing housing for lower income persons?

Answer: The history of Federal assistance for housing, both through cash subsidies on the expenditure side of the Budget and through "tax expenditures" on the revenue side of the Budget, evidences there is no single way of aiding the financing of housing for lower-income persons. Instead, the Federal Government necessarily has to turn to a series of programs in order to tap all available resources that might be used to aid financing of lower-income housing. Issuance of tax-exempt mortgage bonds by State and local governments to finance housing is an important means of providing such assistance, but it is not the sole source. Additional assistance such as cash subsidies under Section 8, the Public Housing program and special tax incentives are designed to promote housing construction and rehabilitation in order to meet the housing needs of lower-income persons.

Question: A number of areas have told me that the one percent arbitrage rule is simply unworkable. Do you have a position on that?

Answer: The one percent arbitrage rule under the Mortgage Subsidy Bond Act of 1980 has not been tested. Some practioners have indicated they could "live with" the one percent rule while others have stated that they cannot. The Department will need to examine the results of actual experience before drawing a conclusion as to whether the one percent arbitrage rule is workable.

Question: Some localitities have indicated that the 1980 Act will make it very costly for them to issue mortgage bonds. Would you agree with that assessment?

Answer: Up to now, virtually all municipal mortgage bonds issued by local agencies have been marketed through negotiated sales. It generally is recognized that negotiated sales are much more expensive than competitive bidding. In order to obtain less costly ways of achieving desirable public purposes, it may be appropriate for municipalities to turn to competitive bidding in lieu of negotiated sales as a means of marketing mortgage bonds under the Mortgage Subsidy Bond Act of 1980.

Annual Contributions for Assisted Housing

Question: HUD has already estimated that elimination of the Ginnie Mae Tandem Plan would increase the per unit subsidy cost for new construction from $5,995 to $7,025. What per unit cost would we be talking about with a Financial Adjustment Factor on top of that?

Answer: The FY 1981 estimate of $7,025 per unit for the Section 8 new construction-private developer category reflects market rate financing and therefore includes an adjustment for the higher interest rate.

Question: The HUD Budget Justification Summary says, "For both years (FY 1981 and FY 1982), local HAPs will be followed as closely as possible consistent with the national mix limitations." Exactly what does this mean?

Answer: In the Housing and Community Development Act of 1980 Congress placed limitations on the use of authority for Section 8 and Public Housing new construction and existing housing. Because of these limitations, revisions were required to the national housing mix which reflect Housing Assistance Plans. The FY 1981 mix (51%-49%) and FY 1982 (55%-45%) for existing and new construction respectively, reflect the adjustments necessary, taking into account both the Congressional mandate and the overall HAP mix. Because of the need to work within both parameters to the extent possible there will certainly be instances where local HAP mixes are not met to the extent desired. However, the Department intends to make every effort to meet local housing mix goals.

Question: In certain areas of my State, and I am sure elsewhere, there are localities, principally rural areas and small towns, where there are no options between new and existing. There simply isn't any Existing Housing available to rehabilitate. Will special consideration be given to these localities?

Answer: Consideration is given to rural areas for new construction under the State Housing Finance and Development Agency (HFDA) set-aside for Section 8 Housing. The allocation of authority for Section 8 Housing includes a percentage of authority to be allocated on a national basis for use in non-metropolitan areas. In addition, the Local Housing Assistance Plans, which HUD takes into consideration in the allocation process, reflect housing needs in specific areas including new construction needs in rural areas.

Question: If Section 8 is in its final period and if Public Housing is less expensive than new Section 8 -- about $4,900 per unit versus $7,000, I believe, according to your own figures, why should not we concentrate more on Public Housing in FY 1982?

Answer: The average per unit costs for Section 8 projects take into account both debt service costs as well as any operating costs needed to support the project. For Public Housing projects, the average per unit cost reflects only the debt service, exclusive of any operating costs. Furthermore, Public Housing debt service is calculated assuming a Federally tax-exempt interest rate of 6.625 percent. The cost gap between Section 8 and Public Housing is narrowed when the following factors are included in the costs comparison: (1) the impact of revenue lost to the Treasury as a result of tax-exempt financing, (2) the revenue foregone by localities as a result of reduced property taxes, and (3) the Operating Subsidies required to operate Public Housing.

Question: What is your opinion of Senator Armstrong's Amendment which prohibits new Section 8 housing contracts in locations that have rent control or rent stabilizing laws?

Answer: The Department believes that rent control is a local issue which can better be decided by the various localities. However, rent control has clearly had a deleterious affect on rental housing and we would urge localities to examine such restrictions carefully to make certain that they are not more harmful in the long run.

Ginnie Mae Tandem Financing

Question: How many projects had reached the conditional commitment stage by February 14 and how many of those were Section 8?

Answer: Our analysis shows the following breakdown of the pipeline:

	Projects	Units	Dollars in Millions
Section 8.............	574	42,000	$2,257
Targeted Tandem.......	294	51,000	1,343
Total...............	868	93,000	3,600

Question: How specifically was the $3.6 billion figure derived?

Answer: The $3.6 billion figure was obtained by surveying each HUD area office to determine what the office had in process. The area office calculations were then reviewed by hand in HUD central office to eliminate projects ineligible for GNMA financing, duplications of project numbers, and projects already subject to GNMA financing. We are now in the process of having the list reviewed by the area offices. However, we expect that any corrections to the list at this time will be minor and involve no more than a handful of projects.

Question: The $2.0 billion?

Answer: The Department did not participate in the development of the $2.0 billion figure, and we do not know exactly how it was derived.

Question: If February 14 is used as the cutoff date, what impact do you expect this to have on reservation of Section 8 units in FY 1981?

Answer: The impact does not appear significant since the number of units expected to utilize Tandem financing was estimated at only 16,500 units for FY 1981 out of a total of 210,000 units estimated to be reserved in FY 1981. This is especially true considering the likelihood that alternative financing for those units affected by the elimination of Tandem financing will be available.

Question: Aren't we likely to see very few reservations in the new and substantial rehabilitation categories?

Answer: For FY 1981, Section 8 and Public Housing new construction reservation activity is now estimated at 81,396 units and substantial rehabilitation activity is estimated at 18,000 units. For FY 1982, reservations are estimated at 64,750 units of new construction and 14,000 units of substantial rehabilitation. Of the total 99,396 units estimated to be reserved in FY 1981, only 16,500 units are estimated to be affected by the proposed elimination of Tandem financing and in FY 1982 only 7,550 units would be affected out of 78,750 units of new and substantial rehabilitation units. Consequently, the total reservation level for new construction and substantial rehabilitation will not be affected significantly.

Question: If a new Section 8 unit is financed with Tandem money (7-1/2 percent interest), what are rents likely to run? Under 11(b)? Under market rates, if indeed there are any?

Answer: It is virtually impossible to distinguish a specific rent based on Tandem financing because Fair Market Rents (FMR) and development costs vary geographically. The Fair Market Rent system establishes rental maximums within Standard Metropolitan Statistical Areas (SMSAs) and non-SMSA market areas.

Question: In FY 1980, how many Section 8 units were financed with the Tandem Plan, 11(b), State Housing finance assistance, market rates, other?

Answer: Section 8 units were financed in FY 1980 as follows:

FINANCING METHOD	UNIT STARTS
GNMA Tandem	47,725
Section 11(b)	7,118
Housing Finance and Development Agencies	37,581
Section 202	20,850
Farmers Home Administration	7,647
Other a/	11,800
Total Starts	132,721

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a/ Represents activity for which the source of financing is not available.

Question: If the GNMA Tandem fund proposal for cleansing the pipeline becomes a reality, how will Assisted Housing multifamily projects be financed? They are not eligible as pipeline projects.

Answer: First, assisted multifamily housing projects which seek HUD-insured financing are clearly eligible for Tandem if they are within the definition of "eligible pipeline" as set forth in HUD's Budget. Alternative methods for financing Section 8 multifamily projects are available. Given the current financial market, these alternatives may not appear to be as appealing as Tandem financing but include HUD mortgage insurance with GNMA mortgage-backed securities, State Housing Finance Agency financing and Section 11(b) tax-exempt bond financing. The Presidential Commission on Housing also will examine this issue further as part of their review of the overall housing situation.

Public Housing Operating Subsidies

Question: You have requested $1.2 billion for Public Housing Operating Subsidies in FY 1982. Some observers are already saying that that is at least $200 million short of requirements. HUD's estimates for this program have not been very good in the past. Why should we believe the $1.2 billion figure is good? (a) Specifically, how did you derive it? (b) What assumptions did you make regarding utility costs? (c) At this point in time, what percentage of actual operating costs would you expect the $1.2 billion to cover?

Answer: The 1982 estimates are derived using data from a sample of Public Housing Agencies (PHAs) and a computer model to project national subsidy requirements based upon the sample data. Estimates are based upon the following assumptions: a national inflation rate of 8.6 percent for non-utility costs; an 11.3 percent increase for utility costs; and a tenant income increase of 6 percent.

The $1.2 million estimate for FY 1982 assumes an 11.4 percent utility cost inflation rate in FY 1981 and an 11.3 percent rate in FY 1982. These inflation rates are based on the Department of Energy Mid-Term Forecasting System. To the extent that these projected inflation rates for utility costs are accurate, the current $1.2 billion estimate should be sufficient to cover all currently projected Operating Subsidy requirements during FY 1982.

The Department will have data on actual operating costs as soon as the analysis is completed of the impact of utility rate increases experienced by PHAs during the first two quarters of FY 1981. The results of this analysis are expected to be available by the latter part of June 1981.

Question: Please explain the changes proposed in determining "adjusted income" for Public Housing tenants. How much in additional income do you expect this to provide for Local Housing Authorities in FY 1982 and FY 1983?

Answer: Currently, the following adjustments are made to determine adjusted income for Public Housing tenants:

—Deduction of 5 percent of total family income (10 percent for the elderly);
—Deduction of extraordinary medical expenses in excess of 3 percent of total family income;
—Deduction for unusual occupational expenses;
—Deduction of amounts paid for care of sick or handicapped;
—An exemption of the first $300 of income from secondary wage earner;
—An exemption of $300 for each member in the household who is under age 18 or a full time student; and
—Deduction for an amount equal to the sums received for foster care.

Under the proposed legislation, only the following standardized deductions will be used:

--An exemption of $400 for each member of the household under age 18; and
--An exemption of $300 per household for all elderly or handicapped households.

No significant amounts of additional income (tenant rent) are expected under the changes proposed for determining adjusted income. The purpose of this change is to provide more uniform and equitable treatment among the subsized housing programs.

Question: The Administration has proposed increasing from 25 to 30 percent the tenant rent contribution. How much in additional income would this provide to Local Housing Authorities in each of the next five fiscal years?

Answer: The Administration's proposal to increase tenant rent contributions from 25 to 30 percent of net income will not result in additional income for Public Housing Agencies. Increases in rental income will be offset by corresponding reductions in operating subsidies and result in the following outlay savings.

FISCAL YEAR	OUTLAY SAVINGS PUBLIC HOUSING (In Millions)
1982	$33.0
1983	99.5
1984	176.6
1985	262.0
1986	357.0

Question: The proposed increase of the ratio of tenant income to rent from 25 percent to 30 percent will probably most hurt those families and individuals who are least able to afford the increase, and if implemented at one percent per year, will be an excessive burden on Public Housing Authorities. How will HUD assure that lower income families are not hurt and that housing authorities will not be unduly burdened by administration of the increases?

Answer: The Department will administer the system in a way that will not place an excessive burden on either low income families or the Public Housing Agencies (PHAs). A one percent per year increase in the rent contribution would raise rents by only 4 percent a year for tenants now paying 25 percent of income as their rent contribution. It would not be difficult for PHAs to administer the increase since all they would have to do is change the percentage by which they multiply income to obtain rent each year.

If additional tenant protections are considered, such as a maximum dollar limit for rent increases, then administration by the PHAs would be more difficult. However, if the Department does adopt such additional provisions, HUD may provide appropriate technical assistance.

Question: How many Public Housing tenants currently pay less than $50 per month in rent? Less than $60?

Answer: Approximately 290,000 Public Housing tenants currently have gross rents of less than $50 per month. The mean gross monthly rent for this group of tenants is $41. The Department does not have readily available data on the number of tenants with rents less than $60 per month. However, it is estimated that approximately 120,000 additional families currently have gross monthly rents of less than $60.

Question: If income limits for eligibility for Public Housing are reduced from the current 80 percent of median income to 50 percent, the program should become more targeted toward the neediest, but at the same time resources available to local housing authorities are likely to decline. What impact do you expect this change to have on income available to local housing authorities in fiscal year 1982? Do you expect the changes in the percentage of tenant rent contribution and adjusted income to compensate for this?

Answer: A reduction in the income limits to 50 percent of median is expected to have only a minimal aggregate effect in FY 1982. This estimate is based on the low level of tenant turnover and the small number of people above 50 percent of median on waiting lists.

Changes in the percentage of rent contribution should more than compensate for the change in income limits to 50 percent of median. The changes in the calculation of adjusted income are not expected to have a significant impact.

Question: A number of housing authorities have written to me, indicating that the Performance Funding Subsidy (PFS) fails to adequately account for local needs. Leaving aside for a moment the utility costs, have you reviewed the PFS and do you intend to continue it in its current form?

Answer: After carefully reviewing the draft final report of the evaluation of the Public Housing Operating Subsidy Performance Funding System (PFS) by Abt Associates, the Department has determined that there is a need to improve the means by which Operating Subsidies are distributed to PHAs. The report revealed that many PHAs may have been underfunded under the PFS. To mitigate one of the primary deficiencies of the current system on a short-term basis, the Department has included funding in its 1982 Budget that would provide for use of a revised inflation factor for non-utility expenses and a retrospective inflation adjustment based on the underprediction of inflation since 1976. As a longer range approach, the Department intends to procure research contract services in the Fall of 1981 to examine alternate methods of generating national estimates of Operating Subsidy requirements and for allocating subsidies to individual PHAs.

Question: In the recent evaluation of the Performance Funding Subsidy System, HUD analysts concluded that almost every factor in the PFS was flawed and that large housing authorities were discriminated against in the formula. Additionally, the PFS provided no incentive for management performance. There have been discussions of the possibility of HUD's conducting an additional study to determine alternative funding mechanisms. What is the Department's timetable for completing the study and what is the timetable to implement the new system to provide relief to all housing authorities?

Answer: While the evaluation of the PFS found problems with a number of elements of the system, the study found that overall, the PFS was an appropriate method of determining Operating Subsidies for PHAs. In response to the findings from the evaluation, the Department has proposed to implement the actions as described in the response to the previous question. It is anticipated that the study of changes to the Public Housing Operating Subsidy PFS will begin in the Fall of 1981 and it is expected that any recommended changes to the system which are approved could be implemented shortly after completion of the study. However, at this time, no estimate as to the duration of the study itself has been made.

Question: For utility cost calculations, you have used a three-year base period, adjusted for weather conditions. Apparently, however, this does not accurately reflect actual utility costs for the past several years nor does it consider conservation efforts, emergencies or a number of other factors which influence utility costs. How do you intend to handle the calculation of utility costs?

Answer: The current method of calculating utilities under the Performance Funding System (PFS) for each Public Housing Agency (PHA) is based on the actual utility consumption of the PHA during a Fixed Base Period that occurred during three of the four years 1973 through 1976. The Fixed Base Period, which is used to calculate the allowable utilities consumption level, does not incorporate the latest utilities consumption experienced. However, the heating utility consumption has been adjusted so that it represents a "normal winter's" usage based on the application of a 30-Year Heating Degree Day System. The PHA then applies the actual utility rates experienced to these allowable consumption levels.

It is recognized that the Fixed Base Period system does not incorporate any changes in consumption levels that may have occurred since 1976. This issue has been considered by the Department and will be one of the problems to be considered in the implementation of an improved Operating Subsidy system.

Question: If I were to try to paint a worst case scenario here, I would argue that you are attempting to target aid to the neediest, but asking them to contribute more of their income which will place a greater burden on tenants and leave the local authorities with less in revenues than they would receive if there were tenants with slightly higher incomes. In addition, you are apparently trying to hold down Federal Operating Subsidies. How do you expect the economics of that to work?

Answer: There are a limited number of people on PHA waiting lists with incomes above 50 percent of median income. Consequently, it is anticipated that the reduction in revenue resulting from the failure to serve higher income families will be minimal. However, if revenues are reduced in some cases because of local circumstances, Operating Subsidies would be increased by the amount of the revenue loss.

Unsubsidized Mortgage Insurance Programs

Question: Do you foresee any effort to terminate the FHA unsubsidized program, say, within the next five years? Do you anticipate any efforts to impose limitations on the use of the program or the types of mortgages that might qualify? What would these limitations be?

Answer: The President's Commission on Housing will evaluate all mortgage insurance programs as well as other housing programs. Included will be the Section 203(b) program for the purpose of determining how it can be recast to best serve the needs of first-time home buyers. The Commission is scheduled to complete its study in February 1982, but an interim report is expected to be completed by October 31, 1981. It is the belief of the Department that the Section 203(b) program is necessary to help the first-time home buyer and others who cannot qualify for conventional loans (including those who could obtain private mortgage insurance) to enable them to purchase a home so that they can join the mainstream of American society. Therefore, unless the results of the study should indicate otherwise, the Department would recommend against any effort to impose limitations on the use of the program or the type of mortgages that might qualify, except for mortgage insurance commitment credit control limitations.

Question: How did you arrive at the decision to propose a $35 billion ceiling for FY 1982? What factors were taken into consideration in determining that specific figure?

Answer: The proposed $35 billion limitation represents a reasonable level of mortgage insurance commitments which will provide the Department with sufficient latitude in case of an unexpected increase in applications. Nevertheless, insurance commitment activity is being monitored very closely to ensure that these limits remain feasible.

Question: Why would the Department even consider eliminating a program such as the unsubsidized mortgage insurance, one which has been successful and not cost the government any money?

Answer: The President's Commission on Housing will examine the issue of whether or not HUD's role can be supplanted in providing mortgage insurance to low- and middle-income homebuyers. The Commission will evaluate the Federal Government's Housing role and this will include this issue in its totality. No changes will be pursued unless they are clearly demonstrated to be in the best interests of the moderate-income homebuyers who would be directly affected by these changes. In this regard, the needs of the first-time homebuyer are of particular concern to the Department.

Question: How do you answer those who say that the private mortgage insurance market could not pick up the additional activity?

Answer: The HUD mortgage insurance program is of particular value to the first-time homebuyer because it permits the homebuyer to obtain insured financing with an average cash investment of 4 to 6 percent of the purchase price compared to an average of 11 percent in the case of private mortgage insurance (PMI). In addition, HUD accepts homebuyers who have total housing expenses, including maintenance and utilities, that do not exceed 35 percent of net income, whereas the PMIs generally limit housing expenses, excluding maintenance and utilities, to 25 percent of gross income. Even with an adjustment from gross to net income, this means that HUD allows the homebuyer to utilize approximately 5 percent more of net income for housing which provides the flexibility needed to allow young families with good earning potential to become homeowners. As a result, HUD serves a large number of homebuyers which the more restrictive underwriting requirements of PMIs cannot presently accommodate.

Question: What factors/elements in the private mortgage insurance market is HUD using in evaluating the need for this program?

Answer: The Administration is evaluating the role of the HUD mortgage insurance programs in more detail at the request of the Congress. It is expected that a report will be made to the Congress later this year together with the findings and conclusions of this study.

Question: Are you actively considering FHA insurance of variable or adjustable rates? Is it your view that fixed rates will become a thing of the past in view of the Federal Home Loan Bank Board's approval of such rates for S&Ls? Does HUD have any analysis or information on what the likely impact of the Board's draft regulations on variable rates will be on the housing market?

Answer: During this time of volatile mortgage interest rates as well as rapid fluctuations in other interest rates, this Department has examined the possibility of using mortgage instruments other than a fixed interest rate mortgage loan. Accordingly, HUD has studied the various alternative mortgage instruments authorized by the Federal Home Loan Bank Board (FHLBB) and the Comptroller of the Currency as well as those developed by private lending institutions. At this juncture, the Department does not have a unique plan of its own. Nevertheless, the Department believes that fixed interest rate loans will continue to exist in the future, especially after the current inflationary spiral is brought under control. In this connection it should be noted that the successful operation of the Graduated Payment Mortgage (GPM) program under Section 245 has proven to be an important support to the fixed interest rate mortgage loan. The Department does not have any analysis or information about the likely impact on the housing market of the adjusted rate regulations recently issued by the FHLBB.

Section 11(b) Bond Financing

Question: I have heard that there has been some discussion at OMB of abolishing the 11(b) Bond Financing program. Are you aware of any such plans and what would be HUD's position?

Answer: There has been some discussion within the Administration about the continued use of Section 11(b) financing for Section 8 projects. This has been in conjunction with this Administration's concern over the policy of utilizing indirect subsidy financing mechanisms to lower the cost of Section 8 production. The recommendation to curtail the use of GNMA Tandem assistance for projects coming into the pipeline after February 14, 1981 is one important manifestation of this concern. Devices such as 11(b) tax exempt financing which subsititute tax expenditures for cash expenditures and GNMA Tandem assistance serve to understate the total cost of providing assisted housing. A recommendation to terminate 11(b) financing has not been adopted at this time pending a complete review of assisted housing supply mechanisms which will be a part of the work of the President's Commission on Housing. In the interim the Department's subsidized housing estimates will continue to include the use of Section 11(b) financing in 1981 and 1982.

It should be noted that the use of tax-exempt financing pursuant to Section 103 of the Internal Revenue Code is an alternative to Section 11(b). Unless that program was also eliminated, issuers of tax-exempt obligations could simply shift to that program.

Question: What is the current rate of 11(b) activity?

Answer: Construction starts and completions from prior year reservations total 1,300 units and 4,878 units, respectively, for the fiscal year through the end of April. Current high interest rates have limited the effectiveness of the program thus far in 1981 and only a limited number of 11(b) financings have been feasible. The Department is exploring ways of offsetting the impact of high interest rates. The use of tax-exempt financing is expected to play a significant role in handling the balance of the Section 8 pipeline if the current problem of high interest rates is solved.

Question: If the Ginnie Mae Tandem program is eliminated, does Section 8 financing have any alternative to 11(b).

Answer: In the absence of both GNMA Tandem assistance and Section 11(b) financing or some other form of tax-exempt financing, there would be little other choice but market rate or Section 103 tax-exempt financing. This would present problems in terms of developing new projects at rents within Fair Market Rent limitations. Some projects would not be economically feasible without subsidized financing. For other projects, contract rents would be increased. The impact would be fewer units reserved at a higher per unit price. It is the recognition of this difficulty which would adversely affect both new reservations and construction starts in the current interest rate environment which precludes the termination of 11(b) financing in the immediate future. As interest rates abate with the implementation of the President's Economic Recovery Program, the need for a financing subsidy mechanism is expected to lessen. The recently formed President's Commission on Housing will examine the issue of tax-exempt financing.

Question: Currently the Section 8 multifamily projects that are not 100 percent assisted are ineligible for 11(b) financing. If they were made eligible, would not more rental housing be built and would not the Section 8 subsidy dollars go further?

Answer: Yes, if such projects were made eligible for Section 11(b) financing, more rental housing units could be built and these would be economically mixed projects. However, Section 8 contract authority and budget authority would go no further since there are a specific number of Section 8 units that can be assisted by using Section 11(b) financing in any fiscal year given a particular amount of contract authority and budget authority. By authorizing Section 11(b) financing for partially assisted projects, the same number of Section 8 assisted units simply would be spread among the projects. The result would be no net gain in the number of Section 8 assisted units unless there was a corresponding increase in contract authority and budget authority. In addition, tenants of the Section 8 projects receiving Section 11(b) financing who are not eligible for housing assistance would receive an indirect housing subsidy as a result of lower rents based on lower interest rates associated with Section 11(b) tax-exempt bond financing. Such partially assisted projects were eligible for Section 103 tax-exempt financing in the past and are explicity permitted under the Mortgage Subsidy Bond Act of 1980. State agencies will have a continuing role in providing financing under the Mortgage Subsidy Bond Act of 1980 even without Federal assistance, and may also play an important role in any housing block grant program.

Projects presently planned for Tandem financing, which are non-HFDA Section 8 projects and often are partially assisted, will look for attractive sources of financing and clearly financing by State Agencies through Section 103 will be considered. Whether such financing is feasible will depend on interest rates.

State Housing Finance and Development Agencies

Question: What future role do you foresee for State Housing Finance Agencies?

Answer: The Department at present foresees a continuance of Federally assisted housing activity for the State Housing Finance Agencies as indicated in the 1982 Budget. State Agencies will have a continuing role in providing financing under the Mortgage Subsidy Bond Act of 1980, even without Federal assistance and could also play an important role in any housing block grant program.

Question: If the Ginnie Mae Tandem Plan is eliminated, would you envision additional Section 8 units being financed through SHFAs?

Answer: Projects presently planned for Tandem financing, which are non-HFDA Section 8 projects and are often partially assisted, will look for alternative sources of financing and clearly financing by State Agencies through Section 103 will be considered. Whether such financing is feasible will depend on interest rates.

Question: State Housing Finance Agencies have a reputation for producing units, not just reserving them, and for producing them quickly. Is HUD aware of and satisfied with this record?

Answer: While the performance of State Housing Finance Agencies varies, the Department is satisfied with the overall contribution State Housing Finance Agencies have made toward the development of Section 8 housing. In 1980 alone, State Housing Finance Agencies accounted for 43,471 completed units. The 1982 Budget assumes the continuation of Section 8 assistance for State Agency projects during both FYs 1981 and 1982.

Federal Financing Bank

Question: Why are you transferring $1.1 billion to the Federal Financing Bank (FFB) when that money could be used for additional units?

Answer: In order to fund additional units under Section 8 and Public Housing, both contract authority and budget authority would be required. The production type unit mix determines the respective amounts of contract authority and budget authority utilized. Under the Department's current FY 1981 proposal, all of the contract authority available for FY 1981 will be used, but a substantial amount of budget authority will remain available. Without contract authority, no additional units could be funded out of the remaining budget authority. The Department determined that the most effective use to which this unutilized budget authority could be put would be to transfer it to the Public Housing Loan Fund account in support of payments to the FFB.

Question: Specifically, what statute or regulations indicate this should be done?

Answer: The FFB has become the agency that other Federal agencies use to finance programs involving the sale or placement of credit market instruments. A similar transfer of budget authority was requested in the FY 1980 Supplemental Appropriation request and the Congress concurred in this financing approach by transferring $1,995.3 million of budget authority in the 1980 Supplemental Appropriations and Recission Act. The financing is authorized under Section 16 of the Federal Financing Bank Act of 1973 (P.L. 93-224).

Question: Programmatically, what reasons dictate such a move?

Answer: As the total of outstanding Public Housing Loans has continued to increase toward the currently maximum allowable total of $20 billion, it has become necessary to provide for the long-term financing of Public Housing development and modernization in order to reduce the balance of outstanding Public Housing loans previously financed through the sale of short-term notes in the private market. The sale of instruments to the FFB also will reduce the workload and uncertainty of selling short-term notes in the private market.

Question: What rate do you anticipate on the long-term bonds and how does this compare with that on the short-term notes?

Answer: The interest rate charged by the FFB is estimated at 11.7 percent in FY 1981 and 10.3 percent in FY 1982 for the financing of long-term instruments. The instruments are financed through the Treasury at a Federally-taxable interest rate. The average interest rate for short-term tax-exempt notes was 6.199 percent in FY 1980 and 7.471 percent in FY 1981 through May 1981.

Housing Counseling

Question: At a time when housing costs are so high, isn't there a need for housing counseling beyond actual default situations?

Shouldn't we also help tenants who are trying to keep buildings going and others who may be displaced if their current programs don't work?

Answer: The Department is proposing to refocus the Housing Counseling Assistance program from comprehensive counseling to the original purpose of mortgage default and delinquency counseling in order to reduce losses to the FHA insurance fund and to direct all of its limited resources to those with the greatest need for assistance, persons who are faced with the loss of their homes.

Because the Department's studies have shown that mortgage default and delinquency counseling is the only type of counseling which is cost-beneficial it does not believe the direct provision of Federal funds for other types of counseling is justified. Should they so decide, local governmental jurisdictions may use a portion of their CDBG funds to meet the need that may exist for other types of housing counseling.

Operative Builder Program

Question: Is there any way the Operative Builder program could be extended to continue coverage of inventory which was constructed prior to October 1, 1980?

Answer: The Operative Builder program was designed as a temporary measure to assist the builder in obtaining more favorable financing for his inventory of houses in a market which had suddenly turned both soft and very expensive for a builder holding a large unsold inventory financed by construction loans. This program, which expired April 30, 1981 had been available for approximately a year. As indicated above, it was temporary in nature and was not intended to encourage builders to speculate in a market where construction loans remained very costly and the market generally was not strong. Insured loans may still be obtained by builders under limited circumstances to pay off construction loans. However, the mortgage terms are not as liberal as those available under the Operative Builder program. This, and the fact that the Operative Builder program was available for a considerable period, preclude the need for this program to finance inventory started prior to October 1, 1980.

QUESTIONS SUBMITTED BY SENATOR WEICKER

Waterbury, Connecticut Project

The Section 8 assisted housing Fair Market Rent system has been the subject of much concern to Congress as well as to local officials. In the past there have been many efforts to change the system through amendments offered to the Housing Authorization Bill in the Housing Subcommittee and also on the floor of the Senate. There have been reports published in newspapers of very high rents charged for HUD-assisted housing projects in many parts of the country including one elderly housing project in Waterbury, Connecticut. The Winn Development project will provide 213 assisted units with rents ranging from $653 for a one-bedroom apartment to $778 for a two-bedroom apartment. Both rents are substantially higher than the average price for similar apartments in the Waterbury market.

Question: Would you please explain how the Fair Market Rents are formulated especially with respect to the Winn Development project? In addition, what do you project to be the average per unit HUD housing assistance cost? What will be the projected profit to the developer of the Winn project?

Answer: At the time of approval of the Winn Development Company's final proposal, the monthly rents (including all utilities) shown below were approved by HUD to be effective at initial occupancy of the rehabiliated units. This was expected in late 1982.

These monthly rents were determined to be reasonable on the basis of a systematic analysis of rents charged for comparable unassisted units in the private market. Reasonable estimates of the rents were derived and then trended ahead to late 1982. This was accomplished by comparing the proposed units to similar recently constructed, unsubsidized units in Waterbury, Connecticut and adjusting the rents of the existing units in order to account for any differences in age, location, condition, unit size, quality of construction, amenities, and available utility services. This was done in order to reflect the increases that could be expected to occur between the time of the analysis and the time of initial occupancy of the rehabilitated units. Finally, to arrive at the approved rents, the trended hypothetical market rents were further increased by about 20 percent to compensate for special costs expected to be incurred in connection with the project (e.g., the costs of providing special design features and management services to accommodate the needs of the elderly and handicapped, and the costs resulting from mortgage discounts).

The contract rents approved in September 1980 were considered to be sufficient to support the costs of acquiring, rehabilitating and subsequently operating the rehabilitated units assuming that the interest rate on the permanent financing did not exceed 7.5 percent. However, due to bond market fluctuations, the actual interest rate on the Section 11(b) tax-exempt financing was 10.84 percent. The difference between this actual rate and the 7.5 percent rate on which the rents originally were predicated was significant enough to render the project infeasible at the rents shown below. Accordingly, in recognition of the need for higher rents to reflect the increased financing costs attributable to the interest rate differential, the previously approved contract rents were adjusted by HUD as shown below.

	MONTHLY RENT			
	1 Bedroom Unit		2 Bedroom Unit	
PROJECT	Original	Adjusted	Original	Adjusted
Wilby High	$565	$672	$657	$778
Bishop & Webster Schools	550	653	637	758

A comparison of these adjusted rents with the originally approved rents indicates that the higher than anticipated cost of borrowing in the tax-exempt bond market had a profound impact on the overall cost of this Section 8 project in Waterbury, Connecticut.

The average per unit Annual Contribution cost for the 213 unit portion of the project is $8,591 per year. The project costs included $1,008,957 in Builder Sponsor Profit and Risk Allowance. This amount represents 10 percent of the cost of the project, exclusive of land, and is divided between the mortgagor and the builder. This allowance typically is used by the developer to reduce the required equity contribution to the project. In the operation of the project, the owner's profit is based on the funds remaining after payment of mortgage obligations, operating expenses, reserve requirements and a management fee.

Areawide Housing Opportunity Plans Program

Mr. Secretary, the Areawide Housing Opportunity Plans program was created in fiscal year 1976 as a special effort to further promote the objectives of the Housing and Community Development Act of 1974, e.g. to provide for the deconcentration of lower-income households in neighborhoods of high concentration, and to provide for inter-jurisdictional mobility of lower-income households among localities within a region. It is my understanding that the HUD central office recently directed HUD Area Offices to halt the processing of applications for projects funded through the AHOP program. The delays in funding resulting from this directive have had an adverse effect on many pending projects as a result of fluctuating interest rates and increasing building costs and property values. For example, the delay in funding of an AHOP to be implemented by the Capital Region Council of Governments in Hartford, Connecticut, has caused a $6,000 per unit cost increase to the sites involved.

Question: What is the purpose of the halt in processing applications for projects funded through the AHOP program?

Answer: We have not halted the processing of applications funded through the AHOP program. The processing of AHOP bonus applications has continued up to the point of project approval. A temporary freeze was placed on approval of AHOP projects which are funded by the Secretary's Community Development Grant Discretionary Fund. This action applied to all projects supported with discretionary funds, except in cases where a delay would cause a significant hardship for the applicant or participant. This was a temporary measure designed to retain maximum flexibility for the new Administration leadership.

Question: What are the intentions of the Department with respect to the funding of pending AHOPs?

Answer: The review of the AHOP/CDBG bonus and Section 8 projects is complete, and those projects have been approved. We are in the process of awarding the grants.

Questions Submitted by Senator Leahy

State Community Development Block Grant Program

I have some concerns on the Administration's proposal to create a State block grant program for community development funds. I am concerned that this transfer of responsibility will not benefit those cities and towns the community development program was designed to serve, but will instead sacrifice a successful and needed program in the name of budget cuts and illusionary Federal reform. Specifically:

Question: Few States have cabinet-level agencies to administer community development programs. How will the transfer of responsibility for community development programs reduce cost or administrative overhead when States will have to either expand existing administrative offices or create entirely new ones? Do you have available any specific figures as to the projected savings to the taxpayer of such a transfer?

Answer: A key element of the Administration's proposal is to provide States with substantially increased flexibility. States will have an opportunity to devise a distribution system related directly to State and local priorities. State-designed systems are expected to be as simple as possible. Some States may be able to use existing staff for operation while others need only to add the minimum staff required to operate a simpler system which they can design. Under the Administration's proposal, States would be permitted to use CDBG funds for administrative expenses. We estimate that the average cost would be about four percent which would be more than offset by an increase of five percent in the total amount available for Small Cities. The five percent increase results from the change to a 70/30 split between entitled communities and nonentitled areas.

Question: Isn't there a very real possibility that the Administration's proposal to transfer control to the States will greatly politicize what should be objective decisions as to how funds are distributed among localities? How can we be assured that this will not happen?

Answer: Although a competition for funds is not mandated, States must develop a system that meets the requirements of the legislation. This system must be described and promulgated in advance of its implementation so that all interested parties will be aware of how grants will be awarded and will be afforded an opportunity to comment. HUD will retain oversight responsibilities to ensure that the State has carried out a program that meets statutory requirements, and distributed the funds in a manner consistent with the method described in its statement.

Question: A number of cities are just beginning their first year of funding under three-year CDBG grants. The Administration has given these communities no guarantees that all three years will be funded as promised. Is it fair to pull the rug out from under these communities after the time and effort they have put into planning for and acquiring these grants?

Answer: It is true that the proposed legislation does not contain a provision protecting the multiyear commitments made by HUD where a State assumes administration of the program. This is to permit States to design programs more responsive to the needs of their States and their communities. However, during the full Senate debate of the bill, the Chairman of the Committee expressed the interest of the Senate that they would expect States to honor these moral commitments made by the Department.

Question: Many of those involved with community development feel that the UDAG program is one of the most successful Federal programs available. UDAG was created for the specific purpose of promoting combined private and public investment for economic development in distressed areas. It is a very different program than the CDBG program which was created to provide Federal funds to local government for general community development. Does it really make sense to combine these programs into one when there is a real risk that to do so will render one or both ineffective?

Answer: Our aim is not just to improve the effectiveness of the UDAG program, but also to streamline it and to minimize separate requirements and procedures. We are revising the block grant program so that CDBG funds can be more effectively used for economic development. Since there will be many similarities between the two programs, it makes sense to fold them together as much as possible so that there can be consistent requirements with the minimum amount of paperwork. UDAG would serve as a supplement to CDBG, providing special funding for projects that could not be handled under CDBG for reasons of project size or clearly documented demands that would exhaust block grant funds.

Question: Do you have any comments on a recent GAO report that found Federal dollars intended for distressed areas being used to finance skating rinks and renovate middle-class housing due to misuse of the funds at the local level? What is your response to the GAO recommendation that Congress and the Administration tighten--not releax--controls over community development block grant funds?

Answer: The GAO report does not contain empirical evidence to support its findings. It would be most misleading to draw general conclusions about the CDBG program from the anecdotes in the report.

While there are undoubted some situations where CDBG funds are being misused, there is no evidence that misuse of funds is characteristic of the program or that higher controls would be cost effective.

Local flexibility in using CDBG funds to meet locally defined community development priorities is more important now more than ever during this period of necessary budget reductions.

Rural Research

Question: What research has HUD conducted on housing needs in rural areas? What have been your findings to date? What portion of the Policy, Development and Research budget was devoted to research on rural problems in fiscal 1981? What portion do you purpose to devote to these activities for fiscal 1982? What problems do you plan to explore?

Answer: There are six projects planned for funding in the FY 1981 budget category of Rural Research. Approximately 77% of this line item involves a Congressionally mandated pass-through to support the operation of the Housing Assistance Council. The remaining funds are used to support rural research including the Rural Neighborhood Housing Services Project, Rural Housing Delivery System, Support for the National Rural Center, and two small follow-on projects for the Rural Assistance Initiatives.

In addition to those funded under the rural Research Budget category, there are nine other research activities that have major rural components such as the Annual Housing Survey, Mobile Homes studies, Rural Section 8 Evaluation and an Evaluation of the Community Development Block Grant Small Cities Program.

Several rural reports have either been issued recently, or are in the draft stage at this time. Some of the more significant include: How Well are We Housed -- Rural, Section 8 Rural Evaluation, the Small Cities Program Evaluation, and Summary of Innovative Concepts Resulting from the Rural Assistance Initiative.

Approximately 3.5% of the PD&R FY 1981 budget is for direct rural research as defined above. In addition, approximately 5.7% represents the rural research component of other activities. Thus, approximately 9.2% of PD&R's FY 1981 budget is in support of rural activities.

The Department is now in the process of defining FY 1982 research activities. Therefore, we are not yet able to say exactly what percentage of our budget will be for rural research.

Among the projects being considered for FY 1982 are Rural Housing Delivery Systems Research and continued support of the Rural Cooperative Housing Demonstration. The appropriate level of support for the Housing Assistance Council has not yet been determined.

PD&R involvement in rural concerns should not be guaged entirely by direct contract research activities. PD&R plays an important role in coordinating rural policy development through its chairmanship of the Intra-Departmental Rural Coordinating Group. This group is comprised of senior program managers from each HUD office and works to improve housing and community development program delivery to small cities and rural areas. The group also serves as a forum for encouraging more consistent requirements for the housing and community development programs of the principal Federal agencies (HUD, FmHA, VA). HUD's FY 1981 Operating Plan requires each HUD Region to develop and implement a Rural Plan designed to test new delivery approaches in rural areas and make programs more accessible to rural communities. A network of rural coordinators has been established in each HUD Field Office to disseminate information on rural innovations and serve as a contact point for rural constituent groups. The group has placed primary emphasis in FY 1981 on identifying program and regulatory reforms that would make HUD programs more accessible at less cost to rural areas.

QUESTIONS SUBMITTED BY SENATOR SCHMITT

Operation of Public Housing

Question: The Executive Director of the Philadelphia Housing Authority has expressed grave concern over his capability to maintain his units in a minimum state of repair, provide adequate security to the tenants and keep units open. Under these circumstances, can Public Housing Authorities use CDBG funds for modernization of facilities?

Answer: The eligible uses of Community Development Block Grant (CDBG) funds under Title I of the Housing and Community Development Act of 1974, as amended, are set forth in 24 CFR Part 570, Subpart C. Eligible activities include modernization planning and the modernization of publicly-owned Low-Income Public Housing. Because Modernization authority is available from the Comprehensive Improvement Assistance Program (CIAP), it is not anticipated that any significant portion of CDBG funds will be used for Public Housing Modernization activities. However, Public Housing Agencies (PHAs) can apply to their local jurisdictions for inclusion of the necessary Modernization projects in the CDBG application. If considered a priority concern of the jurisdiction and included in its application, the PHA as a sub-grantee can carry on the Modernization project with CDBG funds.

Question: Are we to be faced with deteriorating Public Housing stock in the years ahead?

Answer: Over the course of time, Public Housing projects will show some deterioration. However, the Department believes that the new Comprehensive Improvement Assistance Program (CIAP) will be successful in arresting any significant amount of deterioration.

Energy Audits

Question: When will the energy audits that are now required be available and how will HUD use them?

Answer: The regulation on energy audits became effective May 27, 1980. The compliance schedule of the regulation requires Public Housing Agencies (PHAs) to complete energy audits no later than 36 months after the effective date of the regulation. In addition, energy audits are required on housing projects that are modernized with funds from the Comprehensive Improvement Assistance Program (CIAP). HUD should, therefore, begin to receive some results of energy audits during October-December 1981.

Energy audits are to be used to identify cost-effective Energy Conservation Measures (ECMs). ECMs identified to be cost-effective are to be installed by PHAs as funds become available. Public Housing projects that are to be modernized using funds from the CIAP will receive funds to install and/or implement those ECMs which energy audits determine to be cost-effective.

Public Housing Inflation Factor

Question: The Senate Committee on Banking, Housing and Urban Affairs has recently said that "the Performance Funding System apparently does not adequately reflect cost increasing factors common to large cities." What adjustments are planned in the Performance Funding System in view of this situation?

Answer: The draft final report of the evaluation of the Public Housing Operating Subsidy Performance Funding System (PFS) by Abt Associates revealed that in recent years the PFS inflation factor has, on average, been lower than the rate of cost inflation encountered by Public Housing Agencies (PHAs) and that this understatement has been worse for large PHAs. To mitigate this deficiency of the current system, the Department has included funding in its 1982 Budget that would provide for a retrospective inflation adjustment based upon the use of a revised inflation factor for non-utility expenses to adjust for the underprediction of inflation since 1976. Previously, only the State and local government wage factor was utilized. This was found to understate costs, particularly because it did not include non-labor costs which were continuing to rise at a higher rate than wages. The revised inflation factor uses a weighted average of 60 percent for the Bureau of Census' Survey of Wages of State and Local Government Employees and 40 percent for the Commerce Department's Implicit Price Deflator for State and Local Government Purchases of Goods and Services. Use of this revised factor in the future is under review.

Public Housing Utility Costs

Question: Will you please tell me the absolute amount and trend of public utility costs for Public Housing Authorities beginning with the first quarter of FY 1980? (If these figures are not now available, when will they be?)

Answer: Utility costs for Public Housing Agencies (PHAs) increased by 25 percent in FY 1980. Total utility costs for PHAs in FY 1980 are estimated to be $708 million based on actual costs incurred by PHAs in the Department's program model.

Utility expense levels in FY 1981 have increased an estimated 23 percent over FY 1980. This is based on an examination of Performance Funding System calculations from PHA Budgets for the fiscal years beginning January 1 and April 1, 1981 which were obtained from the sample of PHAs used by HUD to estimate national subsidy requirements. The absolute amount of these costs will not be available until this new data can be entered into the Urban Institute computer model in order to generate an estimate of national expense levels. This estimate is expected to become available during June 1981. Utility expense levels in FY 1982 are estimated to increase 11.3 percent.

Market Rents

Question: A recent report done by Rand Corporation for your Office of Policy Development and Research contained the following two paragraphs:

"The Housing allowance program prevents price increases by preserving tenants' incentive to bargain with landlords for market rents. Moreover the Housing Assistance Supply Experiment has shown that the link between demand shifts and rent increases is weak enough so that even a full-scale allowance program does not drive up market rents.

The Section 8 Existing Housing Assistance Program causes price increases by removing the tenants' incentive to bargain, substituting regulations administered by the Public Housing Authority. Those regulations take away the usual market link between tenant payments and rent, allowing price increases to occur. Moreover, the regulations establish a Fair Market Rent target which encourages landlords to raise their prices."

What plans do you have to implement these findings?

Answer: The Department is evaluating the final Rand Corporation Report on the Housing Allowance program and may make appropriate recommendations in the 1983 Budget and related legislative proposals.

UDAG And CDBG Criteria

Question: Mr. Secretary, does not the plan to fold Urban Development Action Grants into the Community Development Block Grant program mean that smaller communities not in the entitlement portion of the CDBG program will have greater difficulty qualifying for UDAG grants?

Answer: No; the criteria for minimum standards of physical and economic distress will not change for big or small cities. Any size city meeting the criteria or having a pocket of poverty will be eligible to compete for funds. Also, the Administration has proposed to continue the present UDAG set-aside of 25 precent of funds appropriated being for smaller cities (under 50,000 population).

Functional Targeting

Question: With Community Development Block Grants absorbing other programs, such as housing rehabilitation (Section 312), will there be any effort to target these funds in more specific ways than now provided for in the Community Development Block Grant Program?

Answer: Our views on targeting CDBG funds to specific functional areas are basically the same as our views on geographic targeting. The block grant program deliberately includes a wide range of eligible activities. Local officials and citizens decide which activities and to what extent they are to be funded. Our proposals to eliminate a number of narrowly focused categorical programs is part of our effort to reduce the intrusive Federal role in deciding the specific uses of grant-in-aid funds. This approach promotes administrative efficiency by eliminating those programs encumbered with complex, costly Federal red tape. While categorical programs may have a place in special limited circumstances, our general view is that increased local discretion is the appropriate approach.

Multifamily Homestead Demonstration

Your letter of May 4 mentioned the multifamily homestead demonstration, using Section 312 loan funds in six cities.

Question: What is the present status of these demonstrations?

Answer: The cities selected for the demonstration were Hartford, Chicago, Cleveland, Oakland, Boston, and Springfield (Massachusetts). The major purpose of the demonstration was to enable cities to understand the multifamily homesteading concept so that CDBG funds could be used for this program.

There have been two multifamily homesteading projects (34 units) completed, one each in Hartford and Springfield. There are eight projects (32 units) currently under construction and five projects (62 units) which are in the development stage.

Question: Will the Section 312 multifamily homestead demonstration program continue with the phaseout of Section 312 housing rehabilitation?

Answer: The Administration proposed termination of the Section 312 Rehabilitation Loan program and, under that proposal, the Section 312 multifamily homestead demonstration would be discontinued. However, the Congress, in acting on the rescission proposal, elected to continue the Section 312 program using repayments and other income. Some portion of those repayments will be used for the multifamily program. In addition, communities could utilize, at their own option, Block Grant funds for purposes similar to the multifamily demonstration program.

Criticism in GAO Report of Proper Use of Community Development Grant Funds

You are familiar with the Comptroller General's recent report "The Community Development Block Grant Program Can Be More Effective In Revitalizing The Nation's Cities". The report notes that the cities spread these funds too widely, that rehabilitation funds often are spent for questionable purposes, and even that there is insufficient information to find out whether funds are properly spent.

Question: Will you tell me your remedies for these three problems? What lessons for the new block grant program can we learn from the experience with the Community Development Block Grants?

Answer: The Department is very familiar with the report and its weaknesses. GAO's method of inquiry did not include any systematic data collection or analysis to verify and assess the significance of report findings. The sample used was neither statistically representative of the CDBG program nor large enough to support the kinds of generalizations and findings contained in the report. Rather than containing empirical evidence, the report consists of anecdotes and quotations from a variety of non-GAO reports that were completed between 1976 and 1979. GAO's recommendations appear to stem more from specific policy preferences than from analysis and fact. Nowhere in the report does GAO weigh the costs of its suggested program changes against the assumed benefits.

Not only is the GAO report methodologically unsound, but HUD has information from more systematic and better documented studies that does not support GAO's findings. This is not to suggest that all criticisms made by GAO are invalid. However, given the deficient study design, methodological weaknesses, and unsupported assumptions and policy preferences throughout the report, it would be misleading to draw conclusions about the CDBG program from the report and to use those conclusions in designing new block grant programs.

Increase Scope of Section 810 Authority

On page 9 of your May 4 letter, you note that Section 810 funds may not be used for the transfer of multifamily properties, locally acquired properties, or for homesteading outside designated areas.

Question: Would you, therefore, favor a broadening of the authority under Section 810 to cover these elements?

Answer: Currently, we are reviewing the appropriateness of broadening the homesteading program to permit the use of Section 810 for the transfer of federally held multifamily properties, federally held properties outside designated urban homesteading boundaries and, in select cases, perhaps for the transfer of locally held properties. The Department is also considering other statutory changes which will increase the impact that homesteading might have upon local abandonment problems. However, no decisions have been reached on what specific legislative or program proposals may be made, if any.

Phaseout of Section 312 Difficult for Philadelphia

Near the bottom of page 9 of your letter of May 4, you indicate the difficulty the phaseout of the Section 312 program is presenting to the city of Philadelphia since Philadelphia has depended on 312 for 85 percent of its rehabilitation financing.

Question: Does this suggest that the phaseout of the Section 312 program is rather precipitous and a more orderly phaseout will permit a more orderly transition to other programs, such as, as you suggest, a loan program funded with block grant funds?

Answer: In Philadelphia, as in many cities, Section 312 funds have been used to rehabilitate Urban Homesteading units. In addition, the Department actively encourages communities to utilize their Block Grant funds for the rehabilitation of Homesteading units within their community. Therefore, Philadelphia may, at its discretion, use its CDBG funds for rehabilitation purposes.

Housing Abandonment

Question: Please describe the Section 510 Demonstration results to date cited on page 2 of your letter of May 4. What cities have been selected in the technical assistance effort to develop "a comprehensive city-wide strategy to deal with their housing abandonment problems"?

Answer: For the last year and one-half, New York City has been participating in the Section 510 Demonstration as a pilot program. This demonstration's goals are to increase ownership opportunities for low- and moderate-income tenants of multifamily housing projects. This demonstration pools local public and private resources for rehabilitating multifamily buildings and provides assistance in converting the projects to cooperative housing. Local community organizations in partnership with private developers will sponsor the work under supervision of local governments. To date three projects with approximately 150 dwelling units are under construction.

In addition to the pilot program in New York City, the Department announced on May 18, 1981, the selection of seven other cities to participate in the Section 510 Demonstration. Those seven cities are Baltimore, Maryland; Buffalo, New York; Chicago, Illinois; Houston, Texas; Los Angeles, California; Phoenix, Arizona; and St. Louis, Missouri. The demonstration will involve rehabilitating between 1,000 and 1,500 deteriorated multifamily units over the next 2-1/2 years.

The Department is currently assessing its priorities for providing technical assistance and has held in abeyance the contract that would provide technical assistance to localities to develop comprehensive city-wide strategies to deal with housing abandonment problems. A final decision as to whether to proceed with this technical assistance effort should be made in the near future. Thus, specific cities have not been selected to participate in this effort to date.

Public Housing Modernization Funding

Question: Why do you propose such a cutback in Public Housing Modernization? Isn't that a cost-effective way to spend resources?

Answer: The previous Administration originally had proposed a Modernization program level of $2 billion. By reducing that level to $1.7 billion, this Administration recognizes that funds spent for Modernization are effective. However, the reduction in the program is consistent with this Administration's efforts to reduce budget levels to assist economic recovery. Even with the reduction, the level of Modernization activity to be supported will be at record levels.

Implementation of Increased Rent Contributions

Question: Exactly when will HUD implement the plan to increase the tenant payment from 25% to 30% of income? Do you plan to authorize any exception, such as in the case of heavy medical expenses, etc.?

Answer: Assuming that legislation is enacted in time, HUD plans to begin phasing in rent increases and to implement the increased tenant rent payments beginning October 1, 1981. Under the proposed legislation, families with exceptional medical expenses will no longer be in a special category, although the Department will consider the needs of those with special circumstances.

Block Grant Voucher System

Question: Does your plan to use the Section 8 Housing program more for existing housing suggest you may move toward a Block Grant Voucher System of housing aid soon?

Answer: No specific recommendations have been made on the Block Grant Voucher System as yet, but it can be expected to be among the major issues to be reviewed by the Presidential Commission on Housing.

Funding of Public Housing Utility Costs

Question: One of the problems encountered by Public Housing Authorities in Pennsylvania cities has been that of funding the rising costs of energy for heating the units. How does HUD propose to help with this problem? Are Federal emergency energy funds being directed to housing authority units?

Answer: Operating Subsidy payments to Public Housing Agencies (PHAs) are determined in accordance with the Performance Funding System (PFS) regulatory formula. Under the formula, the level of utility expenses used in computing Operating Subsidies is based on a PHA's actual past levels of consumption (adjusted for average weather conditions) and on current utility rates. At the end of the fiscal year, each PHA is entitled to receive an Operating Subsidy adjustment to cover all rate increases. At the same time, the PHA shares with HUD the savings or additional costs resulting from its actual consumption levels for that year.

In FY 1981, HUD has not been able to pay 100 percent of PHA Operating Subsidy eligibility due to limited funds. The current estimate is that the FY 1981 appropriation will be sufficient to approve PHA operating budgets at 85.5 percent of PFS eligibility for FY 1981. The funding shortfall has been caused by utility rate increases experienced during FY 1980 in excess of the estimates originally projected and continuing high rates of increase during the current fiscal year. HUD, therefore, is forced to pro-rate Operating Subsidy payments and is not able to cover the full requirement as provided in the regulations.

The full impact may be mitigated to some extent by the fact that PHAs, as building operators, are eligible for assistance under the Department of Health and Human Services (HHS) regulations implementing the Home Energy Assistance Act of 1980. However, the States have responsibility for local administration of the program and the plans approved by HHS reveal a great deal of variation in the levels of assistance being provided to PHAs.

UDAG Neighborhood Projects

Question: You state in the May 4 letter that the City of Philadelphia applied for UDAG funds in December 1980 to address the city's Housing Abandonment problem. You further stated that the "application did not compete well enough with other neighborhood projects and was not funded." Can you tell me what these other projects were that this did not "compete well enough with other neighborhood projects."

Answer: The following is a list of all neighborhood projects funded during the December 1980 round:

Locality Name	Project Name	Amount
Providence,RI	Urban Homesteading	$395,623
Williamsport,PA	Old City Hall	250,000
Cleveland,OH	Central Area Devel Corp	255,000
Rochester,NY	M I Phase II	1,000,000
Rochester,NY	Star Market	250,000
New Orleans,LA	Central City/Magnolia	1,000,000
Cambridge,MA	Energy Conservation	388,600
Philadelphia,PA	Cobbs Creek Shopping Ctr	300,000
Philadelphia,PA	Strawberry Square	600,000
Baltimore,MD	Washington Hill	987,500
Baltimore,MD	Curtis Bay	589,425
Baltimore,MD	Roundhouse Square	715,000
Baltimore,MD	Lyric	315,000
Chicago, IL	79th St Commercial Revit	84,000
Chicago, IL	Borland Building	5,000,000
Chicago, IL	Kedzie East & Eastside	1,500,000
Minneapolis, MN	Elliot Part Apts	3,854,350
Minneapolis, MN	Franklin Ave Commercial	1,119,000
Minneapolis, MN	1801-1805 Elliot Ave	450,000
Birmingham, AL	Single Family Housing	2,100,000
San Francisco, CA	North of Market Hotel	2,663,000
San Francisco, CA	Fillmore Center	2,671,665
East Orange, NJ	Teen Grove Ampere	500,000
Erie, PA	Bayfront Mini Mall	83,150
Elizabeth, NJ	New Point RD-Peterstown	600,000
Atlanta, GA	Thomas Beverage Comp	400,000
Ponce, PR	Hospital San Cristobal	2,000,000
Shreveport, LA	Security National Bank	593,790
Lansing, MI	Capitol Commons	935,000
Knoxville, TN	Mechanicsville	950,000
Norwalk, CT	So Norwalk Neighborhood Rvtl	375,000
Bayamon, PR	Vendes/Santa Juana	220,000
Omaha, NE	Garden Condos	350,000

Housing Assistance Council

Question: Will you or Mr. Savas comment on the work of the Housing Assistance Council, a group which has helped Pennsylvania communities and organizations in housing efforts?

Answer: The Housing Assistance Council (HAC) has four major program components: (1) a revolving loan fund serving as seed money to producers of low-income housing in rural areas; (2) a training program to help develop the institutional capacity and expertise of those involved in the delivery of subsidized rural housing; (3) a technical assistance program for loan recipients and all groups working in low-income housing problems; and (4) a public information service involving rural issues and proposed legislation. For FY 1981 HUD is providing HAC with a grant of $1,050,000. Following is a listing of previous HAC activity in the State of Pennslyvania.

A SAMPLING OF HAC ACTIVITY IN STATE OF PENNSYLVANIA

1972-December - HAC and the Pennsylvania Department of Community Affairs co-sponsored a one day conference for Non-Profit Housing

Corporations, Rural Electric Associations, and Community Action Agencies on low-income housing.

1973-HAC Annual Report - HAC worked with the Westmoreland County CAC on the development of a low-income housing sub-division; and made a loan of $48,900 to the Community Action Board of West Chester.

1974-Shelter and State Action - HAC and the Center Community Change were major consultants under a grant from the Appalachian Regional Commission for the development of a 161 page report that assessed the State of Pennsylvania housing policy for low and moderate income people and the role of the state in housing development and the use of federal housing programs.

1975-The Role of the Church in Rural Housing - In March HAC cosponsored a rural housing conference with the Pennsylvania Council of Churches, the Pennsylvania Catholic Conference, Church Women United, League of Women Voters.

1976-HAC Annual Report - HAC at the request of the State reviewed the Department of Community Affairs housing and community development policies and program implementation.

On the local level, HAC with tenants in Indiana County to assist over one hundred rural renters living in sub-standard housing. HAC provided technical assistance which generated state DCA and HUD grants and private financing for the purchase and repair of the homes.

1978-July - A three day training session was held in Harrisburg for representatives from the Pennsylvania Department of Community Affairs and local development district's staff. Topics included the use of the Applachian Regional Commission's (ARC) Section 207 Rural Housing Program, the land development process, and Federal Housing Programs. HAC prepared a manual on the ARC program which was used as a basis for the training session. This work was done under contract with the Appalachian Office of the Pennslyvania Department of Community Affairs.

1979-House our People Economically - (Kittanning) - HAC provided a match to a loan from the Appalachian Regional Commission for land purchase for a thirty-two unit project.

1980-March - HAC did a one day training session for State Catholic Charities on the use of Community Development Block Grant monies and Rural Rental Housing (FmHA 515) for congregate elderly living.

1981-June - Housing Action Coalition, (Indiana, Pa.) is currently processing a loan of $2,250 for pre-development work on a fifteen unit FmHA Rural Rental project with the Housing Assistance Council. Technical assistance in the devleopment of the project is also being provided.

Effect of Urban Homesteading Program on Abandoned Houses

On page 2 of your letter of May 4 to me you note that the Section 810 Urban Homesteading program provides for the transfer of HUD-held properties to local governments at no cost in order to make rehabilitation of these properties more economically feasible.

Question: Can you describe the effect of this 810 program, the number of properties transferred, for example in Philadelphia or Pittsburgh?

Answer: The program has had a significant impact upon abandonment in many of the participating communities. As of March 3, 1981, approximately 5,000 properties had been transferred from HUD to localities participating in the HUD-sponsored Urban Homesteading program. Thus, the program has helped reduce the HUD inventory while revitalizing specific concentrated areas, increasing property values and the localities' tax revenue base, and focusing greater local government attention on an understanding of their housing abandonment problems. It is anticipated that in the near future agreements will be reached with the Veterans Administration and the Farmers Home Administration which will permit acquisition of their properties with Section 810 funds.

Philadelphia entered the HUD-sponsored Urban Homesteading program in 1975 as a demonstration city. Since that time, HUD has transferred 362 properties to the City for inclusion in its program.

Participation in HUD's Urban Homesteading program is a local option; and, to date, Pittsburgh has not elected to establish a program. Nine other Pennsylvania communities have initiated Urban Homesteading programs; however, these localities use local properties only. They are: Lebanon, Shamokin, York, Bradford, Luzerne County, Nanticoke, Pottsville, Sunbury and Wilkes-Barre.

Question: What is the limit on value at time of transfer?

Answer: The limit on value of properties transferred under Section 810 is $15,000. This figure is arrived at by subtracting the projected holding costs, were the property to remain in the HUD inventory, from as-is value. If the resulting figure is $15,000 or less, the property qualifies for transfer under Section 810.

QUESTIONS SUBMITTED BY SENATOR PROXMIRE

Section 8 Costs

You are requesting a total of $19.7 billion in long term budget authority for the Section 8 program in Fiscal Year 1982. Although this is a sharp drop in your current Budget, it is still a very substantial amount of money. Page C-25 of your Justifications indicates that the cost of subsidizing a new Section 8 unit now hovers around $6,000 a year, with Farmers Home units costing as little as $5,100 a year and the category "Other Insured" units costing as much as $7,025 a year to subsidize. This means the units are costing about $500 a month in subsidies. This is much too expensive.

A recent GAO report on the Section 8 new construction program chided HUD for permitting Section 8 funds to be used to build housing that was overly costly. In fact the housing was better than most housing in the market areas where it was located. Apparently there was precious little price competition in the allocation of Section 8 funds which meant that the developers competed on the basis of how luxurious and spacious they could make each unit given the Fair Market Rent rate of return, or even a higher rate of return.

Question: What steps if any can we take to reintroduce price competition as a factor in the distribution of Section 8 funds?

Answer: The GAO report, "How to House More People at Lower Costs Under the Section 8 New Construction Program," did not utilize a statistical sampling methodology. The projects were selected arbitrarily and, therefore, are not representative of Section 8 new construction projects nationwide. Furthermore, the housing quality issue discussed in the report was not satisfactorily documented. GAO did not compare the features of the selected Section 8 units with modest rental units in the same market area. This would be necessary for a valid comparison. However, the report was essentially correct.

The Fair Market Rent (FMR) system is not intended to create competition amoung developers. Fair Market rents are established in order to ensure that approved projects are based on rentals for various sizes and types of housing units of a modest nature in the chosen market area. This, in turn, will ensure that a sufficient supply of decent, modest and non-luxury accommodations will be available.

Question: I understand that in the few areas where non-subsidized rental housing is still being built, such as California, the non-subsidized housing is more modest than the Section 8 housing. This means that if your income level is low enough to qualify you for a rental subsidy you can live in better housing than if you have to pay 100 percent of your rent. What is HUD doing to correct this obvious inequity?

Answer: Although it is not possible to explain such cost discrepancies without satisfactory documentation as explained in the response to the previous question, the Department is continuing to support the Fair Market Rent System as a basis for encouraging competitive development costs in order to provide suitable Assisted Housing at reasonable cost. However, HUD is exploring ways to control Section 8 costs as discussed above.

Community Development Grants

How are Cities Using the Money?

The GAO Report stated that many cities were unable to document the use of CD funds to benefit low- and moderate-income families. Of course this was a primary purpose of the legislation.

Question: Do you have any plans to require cities to show that the funding is in fact being used for the purposes set forth in the authorizing statute?

Answer: First of all, it is clear from studies, including the Sixth Annual CDBG Report based on information from a representative sample of 200 entitlement communities, recipients are using CDBG funds for the purposes set forth in the authorizing statute.

Second, HUD has been giving, and continues to give, priority attention in our monitoring to verify benefits to low- and moderate-income persons. This verification relies on on-site observation, as well as review of available hard data. While it is true that hard data is not always available to prove benefits to low- and moderate-income persons, it is often clear from observations of local circumstances that low- and moderate-income persons are the primary beneficiaries of a given project.

The GAO Report failed to weigh the added burden and cost of developing local information systems to further verify low- and moderate-income benefits with the benefits which could be gained from such additional hard data. We have no evidence that the imposition of such added administrative costs is justified.

It should be noted that the GAO Report did not say that many cities were unable to document the use of CD funds to benefit low- and moderate-income persons. Rather it said that verfication of benefits to such persons was not always adequate.

Community Development Block Grant Rehabilitation Efforts

Both your own Inspector General and the General Accounting Office have been critical of the way in which cities have managed community development funds used for housing rehabilitation purposes. The GAO Report on the CD program mentioned one instance of a woman whose annual income was $33,000 a year using a rehabilitation loan to put a wrought iron fence around a personal residence valued at $175,000. In one city 15 percent of those receiving CD-assisted rehabilitation loans made over $30,000 a year. Your Inspector General's Report talked of loans made for work that was never done. The GAO Report cited funds spent to replace functioning refrigerators and stoves and to build nonessential additons such as garages, patios and sundecks.

Question: What steps are you taking to tighten up on the use of rehabilitation funds under the community development program?

Answer: The Department does not believe there are serious problems with the administration of the CDBG program. Central to the block grant approach is the flexibility of local communities administering their grants. The Department does, however, have an oversight responsibility.

Through this oversight responsibility, the Department monitors recipients' use of CDBG rehabilitation dollars. When misuse of those funds are detected, HUD takes steps--administrative and, where appropriate, through litigation--to remedy the inappropriate use of funds. The Department also provides several technical assistance services to CDBG applicants and recipients through the use of Community Development Technical Assistance funds. One of those is the Community Rehabilitation Training Center, which offers courses in rehabilitation eligiblity criteria, rehabilitation standards, and effective contractor selection procedures. Another of those services is the Rehabilitation Advisory Service, which recipients of CDBG rehabilitation funds may use to improve rehabilitation design and management delivery systems for local communities.

Community Development Grants Program

Public Service Waste

The GAO Report also criticized the large amount being spent on public services--a total of $240 million in 1979. Activities funded under this heading included ice-skating and music lessons, as well as a repertoire theatre. Apparently these public service expenditures were ranked last on a priority list by many local officials. One commentator called public services a "bottomless pit".

Question: Why can't you simply eliminate publc services from your list of eligible expenditures? Wouldn't this be a way of getting more bang for your buck?

Answer: The CDBG statute authorizes publc services as an eligible activity in recognition that some communities have determined that such services are valid components of their revitalization strategy. GAO's position seeks to substitute their assumptions concerning appropriate community development activities for the judgment of local officials and citizens. Despite the views expressed by the limited number of officials interviewed by GAO, local decisions to fund public services represent a more valid statement of local priorities. It should also be noted that empirical data shows that public services expenditures are the most highly targeted to needy persons.

Finally, we have proposed significant changes in the statutory provision on eligible public services. This proposed amendment, while eliminating burdensome restrictions, provides for a ten percent limit on public service expenditures in recognition that the CDBG program is primarily, but not exclusively, a physical development program.

Community Development Block Grant Program Targeting

You are requesting $4.2 billion for Community Development Grants in fiscal year 1982. As you know, a recent General Accounting Office report was quite critical of the way in which the program is being run.

The Report said that many cities currently spread their CD funds too widely and recommended that HUD should consider the need for grantees to concentrate their block grant funds. In fact the report quoted one respondent as saying "The 15 city council members jockey for as much money as each can get from the block grant. If they had their preference, they would each choose a 15-way split."

Question: What steps are you taking to require grantees to target their CD funds more effectively?

Answer: The position taken by GAO with respect to geographic targeting of funds is flawed in several respects. Underlying the call for increased targeting is the unsupported assumption that highly concentrated activities represent the only valid strategy for effectively addressing community development problems. We firmly believe that the degree of targeting is a judgment to be made by local officials and citizens, not by HUD or GAO.

Further, the GAO Report includes generalizations, including those on targeting, which are based on a nonrepresentative sample of localities and unsupported by any systematic method of collecting information. Available data indicates that a high degree of targeting already exists, particularly in distressed localities. Local decisions also reflect the view that funds should be used to address problems which exist on a spot basis or in neighborhoods where a high degree of concentration is neither necessary nor appropriate.

In addition, GAO's support for targeting fails to take into account the potential for negative impact of targeting in specific situations, most notably displacement.

While the Department would carefully consider and disseminate valid information on the benefits and costs of geographic targeting, our policy is basically neutral. It will be up to local officials and citizens to determine the degree of targeting appropriate to their needs. Elected officials at the local level should have the privilege of making tradeoffs in much the same manner as tradeoffs are made at the national legislative level.

NEIGHBORHOOD REINVESTMENT CORPORATION

STATEMENT OF WILLIAM A. WHITESIDE, EXECUTIVE DIRECTOR

ACCOMPANIED BY:

- **MEG ARMSTRONG, DIRECTOR, NEIGHBORHOOD PRESERVATION PROJECTS**
- **CAROL J. McCABE, GENERAL COUNSEL**
- **JAMES A. McNEIRNEY, DEPUTY EXECUTIVE DIRECTOR**
- **DONNIE L. BRYANT, SECRETARY/TREASURER, DIRECTOR, FINANCE AND ADMINISTRATION**
- **GEORGE KNIGHT, DIRECTOR, PROGRAM DEVELOPMENT**
- **KEN KNOX, DIRECTOR, SUPPORT AND TRAINING**

Senator GARN. The Neighborhood Reinvestment Corporation was established as a nonprofit public corporation in 1978 by the Neighborhood Reinvestment Corporation Act. The Corporation is committed to a policy of neighborhood revitalization for residents of urban neighborhoods and has as its major objective assisting local communities in the development of local neighborhood housing services programs.

You are requesting $14,950,000 in fiscal year 1982, or a 20-percent increase from your current fiscal year 1981 level. I might point out that you are the only agency under the jurisdiction of this subcommittee whose original fiscal year 1982 budget was not amended by the administration's March budget revisions.

Before we begin, however, I want to express my disappointment over the inadequacy of your fiscal year 1982 budget justification. It simply does not set forth your funding plans in sufficient detail. For example, there are no comparisons between your current fiscal year 1981 budget and your fiscal year 1982 request. In addition, there is very little narrative explaining your fiscal year 1982 activities and the activities which you plan to undertake in fiscal year 1982.

I certainly hope your budget justification for fiscal year 1983 will demonstrate a higher standard of professional expertise.

When I make those criticisms, I think you know that I have been one of your chief supporters and was one of the prime sponsors of the Neighborhood Reinvestment Act. At that time, my major concerns were to prevent you from becoming part of HUD and to not create another agency which would expand at such a rate that it would develop into another massive bureaucratic agency. So the criticisms which I have of your budget justification, are coming from a friend.

You have a 27-page statement. If you would like to present a summary of your statement at this time, we will place the entire statement in the record.

[The statement follows:]

STATEMENT OF WILLIAM A. WHITESIDE

Mr. Chairman and Members of the Committee. It is a privilege to appear before you today to testify on the Fiscal Year 1982 appropriation request of the Neighborhood Reinvestment Corporation. In my remarks, I shall cover the following areas:

Introduction
Neighborhood Housing Services Status
Neighborhoods Served
Tools for Neighborhood Needs
Neighborhood Housing Services as a Lasting Local Institution
Impact of the Current Economic Climate
Fiscal Year 1982 Appropriation Request

Supplemental materials are included in the Appendix attached to my printed testimony.

INTRODUCTION

As we enter the third year of operation of the Neighborhood Reinvestment Corporation, I am pleased to report that the Corporation is functioning well, and in my opinion, carrying out the intent of Congress. Established in the Neighborhood Reinvestment Corporation Act as a public corporation -- which was not to be considered a department, agency or instrumentality of the Federal government, and whose officers and employees are not to be considered officers or employees of the United States -- Congress directed the Corporation to operate in a flexible and non-bureaucratic manner. The Administration has respected this special status and we have found the structure well suited to carrying out our special task.

Against the backdrop of very challenging times and the prospect of a significant reduction in the level of Federal assistance provided to neighborhoods, we are grateful to have been singled out by the Administration for a modest increase in our Federal funding.

NEIGHBORHOOD HOUSING SERVICES STATUS

Neighborhood Housing Services programs are now serving 135 neighborhoods in 106 cities. We are in the process of developing new NHS programs in 35 neighborhoods and assisting established NHS programs with expansion into 10 new neighborhoods. NHS programs are operating or in development in 42 states and the District of Columbia. (For a more complete description of NHS programs, see Attachment A.)

NHS programs operate in most of the large cities. Of the 57 cities over 250,000 population, 42 have NHS programs. New York City's Jamaica, Queens NHS is soon to be joined by six more neighborhood programs in the boroughs of the Bronx, Brooklyn and Staten Island. At the other end of the scale, among a growing number of small cities served, NHS constitutes the main neighborhood revitalization and housing rehabilitation activity in a dozen cities under 30,000 population. The incomes in neighborhoods served average 84% of city-wide median incomes. One-fifth of the neighborhoods have populations 85% or more minority. One-fifth of the neighborhoods have populations 15% or less minority and the other three-fifths of NHS neighborhoods have populations which are between 15% and 85% minority. The neighborhoods served range from neighborhoods as small as 725 dwelling units to neighborhoods as large as 10,000 dwelling units. The median neighborhood size is 2,500 units. Populations are as small as 1,500 and as large as 26,000. 1,000,000 people live in NHS neighborhoods. (NHS demographic information is available in Attachment B.)

Projections based on early reports of the HUD evaluation of NHS programs as well as our own impact evaluation indicates that a typical NHS program with average program difficulty and average program resources produces $12 million in reinvestment in its neighborhood (including private lending, direct reinvestment by homeowners, NHS services and lending, and enhancement of public service levels, public amenities and capital improvements by local government). As of this date, we estimate the cumulative reinvestment which has taken place in NHS neighborhoods to be $678,000,000. (An outline of the estimated leveraging impact of NHS programs is included in Attachment C.)

NEIGHBORHOODS SERVED

Two studies are now available which give us information on NHS neighborhoods served. The first is an evaluation of Neighborhood Housing Services programs performed for the U.S. Department of Housing and Urban Development.* Based on the study of 20 sample NHS programs, the study reports, "Considering the (NHS) neighborhoods as a group, the trend from 1950 to 1978 was one of relative decline in all socio-economic indicators. In income and education the median neighborhood inhabitant fell behind his national or metropolitan counterpart. Changes in rents and property values show that the NHS neighborhoods were viewed as less desirable than the rest of the SMSAs. This relative decline was found in a majority of the neighborhoods with many suffering dramatic deterioration."

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* Evaluation of Neighborhood Housing Services programs by the U.S. Department of Housing and Urban Development (Conducted by Urban Systems Research and Engineering, Inc.) Describing Target Neighborhoods and Creating Local Partnerships, April, 1980.

In the NHS neighborhoods, 64.4% rate their housing as good. In all SMSAs and central cities, 81.8% and 76.4%, respectively, rate their housing as excellent or good. When examining the rating of NHS neighborhoods, 7.3% rate their housing as poor compared to 2.8% in the national SMSA sample and 4.0% in national central cities.

The median NHS neighborhood household income is $9,500 and it ranges from $4,700 in Wilmington, North Carolina to $15,000 in St. Paul, Minnesota. The table in Attachment B compares NHS median household incomes with city-wide median household incomes at the time of development of each program. Since cities, with their larger share of low income population, normally have lower median incomes than their SMSAs, NHS neighborhood median household incomes are an even smaller percentage of SMSA median household incomes.

In reviewing the changes in NHS neighborhoods, the study found that in 1979, overall average investment expenditure in home improvements per owner-occupied property was $1,058. This compares with $567 average expenditure for alterations and repairs to owner-occupied single-family properties for the U.S. as a whole.

The analysis also establishes that NHS neighborhoods once suffering from declining property values are showing the positive impact of reinvestment. Based on owners' estimates, the average single-family property value was $27,000. The study estimates these values to be 85% of the median values in the 20 SMSAs. Fifteen out of 20 neighborhoods improved relative to their SMSAs between 1970 and 1978.

An additional study was conducted by Neighborhood Reinvestment at the request of OMB. This has been completed and is currently under review by a Technical Advisory Committee. We anticipate the final report will be available in June, 1981.

The study is an attempt to determine the experience of the NHS partnership model and to report on their program experience to date. Specifically, it was designed to provide a description of NHS neighborhoods, analyze the participation level of the various partnership members, provide data on the change in investment levels and other proxies for local market activities, assess the extent to which NHS is capable of delivering programs and generating new ideas, and the extent to which the program is transferable to a wide range of neighborhoods. In addition, two of the Corporation's newer programs, the Apartment Improvement Program and the Home Ownership Promotion program, were examined. The study was based on a field survey of 12 NHS programs, three Apartment Improvement Programs and two Home Ownership Promotion programs, as well as survey material made available as a result of the HUD study.

The study found that looking specifically at one year, the data available for 1979 suggests that a total reinvestment by owner-occupants in 106 NHS neighborhoods was in excess of $100 million. This total is based on an average NHS neighborhood of 2,600 households, half of whom are owners and 64% of whom invested in their property for an average of $1,058. This total is obviously only partial as it includes only owner-occupants. It also does not include public improvements or improvements made by institutions and nonprofit organizations.

Drawing upon the analysis of this study as well as Neighborhood Reinvestment's program data, we estimate that in a five and one-half year period more than $12 million in reinvestment occurs in an average NHS neighborhood. Eighty percent represents private reinvestment, most of which is made by individuals in mortgages, home improvement loans, or direct cash expenditures within the neighborhoods. (The value of "sweat equity" is not included here.) Most of the rest of the reinvestment, 18%, is made by state and local governments in the form of capital improvements in the neighborhoods and local public activity. (In-kind contributions and staff time are not typically reflected.)

Neighborhood Housing Services programs are seen as mechanisms to reverse decline in declining neighborhoods rather than to attempt to revitalize neighborhoods which are already severely deteriorated. This role is a question of resources, but it is also a question of obtaining substantial leverage on those resources.

NHS programs have established a reputation as programs which work. One of the reasons they do work is that the task they undertake is reasonably posed against the available resources. In order for NHS programs to work in neighborhoods substantially more deteriorated than those addressed to date, funding would be required to deal with substantial public improvements and the requirements of substantial rehabilitation of privately-owned properties.

One of the appealing things about NHS has been the leverage it has obtained on Federal funds. Currently, we estimate that $39 of reinvestment takes place in an NHS neighborhood for each dollar of Federal funds expended. This leverage occurs because, in addition to clients of low income who require extensive NHS services and below market loans from the NHS Revolving Loan Funds, there are homeowners in the neighborhood who, with relatively little assistance from the NHS, can improve their homes with their own resources or ability to borrow from participating lending institutions. As neighborhoods are served which have a higher proportion of homeowners who will be direct clients for NHS services and a lower proportion of homeowners who can undertake their own rehabilitation, the leverage on Federal expenditures is likely to decline.

I am pleased to report that virtually all of the NHS expansions to additional neighborhoods have been to neighborhoods which were somewhat more deteriorated than the initial neighborhood or neighborhoods. We are stressing with our development staff our intention that local NHS partnerships should be encouraged to serve neighborhoods which are as far below the city's median income as is feasible within the limits of resources available. These resources vary from community to community and also from time to time. We may be entering a period now in which resources are more limited and later in this statement, I will address the efforts we are making to increase the private resources available to local NHS programs.

We have already had a good deal of success in bringing NHS programs to cities in a wide range of populations, as the following chart will indicate. The limit here, in the size of city which can be served, as in the question of degree of deterioration of the neighborhood, is one of resources. In smaller cities with a limited number of financial institutions, the ability to support the operating costs of the NHS through voluntary contributions is limited. The very small cities also have limited access to Community Development Block Grant funds to carry out the city partner's role of providing improved public services and amenities in the neighborhood and helping to support the Revolving Loan Fund of the NHS program. We are continuing to probe the boundaries of what is possible in serving smaller cities and hope to provide innovative approaches where we can discover them.

In relation to our ongoing efforts to develop a rural model of NHS, we are running into the same resource limitations. One promising breakthrough has been in the State of Vermont where a statewide board of directors has been elected for what is being called a Community Housing Services program, adapting the NHS

CUMULATIVE NUMBER OF CITIES WITH NHS PROGRAMS

BY YEAR AND CITY SIZE

Cities Populations (000's)	Over 1,000	Over 250 Under 1,000	Over 100 Under 250	Over 50 Under 100	Over 10 Under 50	TOTAL
1982*	6	41	52	38	25	162
1981*	6	37	41	32	19	135
1980	4	36	27	20	12	99
1979	4	32	16	15	10	77
1978	4	29	9	8	3	53
1977	3	26	5	2	3	39
1976	3	21	1	1	1	27
TOTAL IN CLASS	6	51	104	249	1,637	2,047

*Projected

model for service in Vermont's sparsely populated areas. The board is composed of representatives from the residential sector, state and local governments and financial institutions.

Currently the board is in the process of selecting the first program sites and raising the operating budget and Revolving Loan Fund from public and private resources. After site selection is completed this Spring, development of each region will get underway based upon our traditional development-workshop process.

While there are still many details to work through, we do know that each region will have its own local board of directors -- a resident/public/private partnership. In addition to housing rehabilitation, energy conservation will be an important focus of Community Housing Services.

In Cattaragaus County, New York, we have entered into an agreement with the State of New York to develop a county-wide program with state funding assistance, and in Wisconsin we are also exploring with the state government development in very rural areas. Without the state providing the operating budget support, there would be no chance to develop a program in such areas.

Our experience to date indicates the following attributes to rural/small town development:

1. There are insufficient local private and public resources.
2. The public resources are largely from state or Federal grants.
3. The needs range beyond rehabilitation and narrow housing issues to include new construction, sanitation, roads and specialized housing requirements of the elderly and handicapped.
4. The capacity of local government to provide assistance is limited.
5. Locating qualified potential NHS staff members is difficult.

It does not seem realistic to attempt to develop NHS programs in rural areas without some certainty of funding for the developmental activity, operating budget and revolving loan fund needs for a five-year period. Local costs over a five-year period would approximate $1 million. In the current economic climate opportunities for obtaining state or Federal grants in this amount seem limited. If we were to commit an extra $1 million of our funding over the five-year life of a rural or a very small town NHS program in addition to the approximately $300,000 we expend over a similar period for a typical NHS program, it would reduce the leverage on our Federal funding from 39-to-1 down to 9-to-1. Proceeding with such a course of action even on a pilot basis would require a major policy change, and given the current scarcity of resources, I am not prepared to make such a recommendation.

TOOLS FOR NEIGHBORHOOD NEEDS

The Neighborhood Reinvestment Corporation's work includes an activity called Neighborhood Preservation Projects. This includes: 1) the identification and monitoring of promising local efforts which are successfully dealing with neighborhood problems beyond the scope of the basic NHS program; 2) testing of these new tools in additional locations; and, 3) making the new programmatic components available to NHS neighborhoods which require them in order to successfully revitalize their neighborhoods.

These new tools enable NHSs to deal with the ever-tightening rental market, more distressed neighborhoods, neighborhoods with higher proportions of renters and apartment buildings, more blighted buildings, scattered vacant lots, blighted commercial areas, etc. They include:

Program Components Available for Broader Replication

Apartment Improvement Program (AIP) -- A partnership of city, lenders, landlords, tenants and neighborhood organizations participate in a sophisticated technical program to upgrade large apartment buildings.

Home Ownership Promotion (HOP) -- Sale and financing of absentee-owned and vacant properties to long-term tenants in the NHS neighborhood.

Rehabilitation and Sale Program -- Properties which cannot be rehabilitated privately are purchased, rehabilitated and resold by the NHS.

Urban Lender Program -- Loan underwriters and appraisers are trained to operate successfully in the urban marketplace.

Home Maintenance Training -- Hands-on home repair courses for residents.

HUD Area Management Broker -- Special services for NHS neighborhoods impacted by large numbers of vacant HUD-owned properties.

Owner-Built Housing Program -- Moderate income families build their own homes with NHS technical assistance.

Energy Conservation Program -- Energy conservation audit and improvement procedures added to NHS's rehabilitation services.

Neighborhood Commercial Revitalization -- Partnership approach to physical and economic revitalization and long-term management of neighborhood commercial areas.

Insurance Full Partnership -- Property/casualty insurance industry joins NHS partnership and deals with insurance needs in neighborhood.

Program Components Being Evaluated for Future Replication

Small Apartment Building Management -- Professional management services for small apartment buildings.

Crime Prevention -- The NHS organizes homeowners block-by-block to reduce crime and the fear of crime.

Urban Landscaping -- The NHS assists homeowners in developing design standards and financing for landscaping improvements.

Citizen Leadership Development -- Neighborhood residents are trained in communication and citizenship skills.

Neighborhood Rental Services -- The NHS acquires, rehabilitates and manages problem rental properties.

Neighborhood School-Community Identity Project -- High school students learn communication skills and become involved in their community through production of neighborhood-focused cable television programming.

Neighborhood New Construction -- Single-family homes are built on scattered vacant lots in NHS neighborhoods and sold at neighborhood real estate market price level.

Mutual Housing Associations -- Low to middle income families invest savings in associations which develop and operate apartments, to be occupied by association members.

Six of these components are currently being replicated in 14 locations but funding has only permitted the Corporation to scratch the surface in this aspect of its work, with only five of these tools currently operational in 24 cities. We estimate that the average NHS program will need 2.3 of the programmatic components to fully address its neighborhood's problems. (A complete description of Neighborhood Preservation Projects and Neighborhood Preservation Developments can be found as Attachment D.)

Secondary Market

Another component added to the basic NHS on a national scale is a secondary market for NHS Revolving Loan Funds, launched through Neighborhood Housing Services of America (NHSA) in 1974.

Established as a private, nonprofit, state chartered, tax exempt corporation, NHSA was created to give added private sector strength to the NHS programs, and through a secondary market give the NHS programs access to the private investor market as a resource for replenishing their loan funds.

NHS loans are, by definition, "unbankable" and require terms more liberal than the private investor market accepts. NHSA met the liquidity needs of the NHS programs by purchasing NHS loans through a loan purchase pool funded by Neighborhood Reinvestment grants until 1978.

In late 1978, in a significant step in NHSA's efforts to create a secondary market for NHS Revolving Loan Funds, the Equitable Life Assurance Society of the United States agreed to purchase from NHSA $1 million in notes backed by the pool of NHS Revolving Loan Fund loans. In 1980, a further $2 million security sale was approved by Equitable.

This mechanism makes it possible for NHSA, within the limits of its resources, to replenish the loan funds of NHS programs across the country. By the end of 1980, with limited funding, NHSA had purchased loan packages totaling $2,890,742 from 27 NHS programs. The adequacy of this secondary market resource backs up the momentum of local NHS programs -- which is closely tied to the liquidity of their Revolving Loan Funds -- with both homeowner and lender confidence dependent upon progress with problem properties on each block in the neighborhood.

NHS AS A LASTING LOCAL INSTITUTION

In the basic NHS program, each neighborhood is being helped towards a strengthened economic and social fabric. The help includes targeted public services and capital improvements, financial and rehabilitation counseling, loan referrals and loans at flexible rates and terms for unbankable homeowners.

Everyone's property values are enhanced as owners are encouraged to upgrade their properties:

-- Directly by NHS staff
-- By city housing inspectors
-- And by the growing awareness that the neighborhood is once again becoming a place you can invest in.

This is the basic NHS building block. Now I want to tell you about what is happening in a large number of NHS programs three years old or older. First, all those in the partnership see themselves as part of a lasting institution and they are viewed as such by other neighborhoods and the public at large.

Second, they are expanding, and in doing so, seeking out every possible financial resource -- city, state, Federal, corporate and philanthropic.

Expansion takes several forms. Almost all programs have undertaken some programmatic expansions on the basic model, such as paint programs, tool lending programs, gardening and landscaping projects, historic preservation counseling, etc. Others have gone into more substantial and sophisticated activities, such as land banking, home maintenance training, prepaid maintenance services, direct rehabilitation and sale of vacant buildings, new construction, and ownership of rental properties.

Then there are the components we help the NHSs bring to the neighborhood, such as the Home Ownership Promotion program, the Rehabilitation and Sale program, the Insurance Industry Full Partnership, and "sister programs" which work with the NHS but involve broader partnerships, such as the Apartment Improvement Program and the Neighborhood Commercial Revitalization program currently being developed.

In addition to this programmatic expansion, NHS programs are getting into geographical expansion -- expansion into additional neighborhoods -- in a major way. Over one-quarter of our development activity is now responding to NHS requests for help in expanding to additional neighborhoods.

We have worked out a developmental process for this kind of expansion which enables residents of the new neighborhood to feel the same kind of "ownership" of the NHS that the original residents felt, and enables the existing partnership to work through all of the issues of new board and staff structures and financial resources in ways that don't compromise any group's self-interests. A total of 30 programs have expanded to serve additional neighborhoods or are in the process of doing so.

One frequently asked question is: "When will NHS be finished?" As my discussion of various kinds of expansion and the experience of the earliest programs indicates, many have finished their first set of goals but decided to take on new ones. They have discovered that the needs are too great, the NHS mechanism is too valuable to close their doors. We are seeing that as the partnership's initial goals are completed in one neighborhood, that neighborhood is entering what we are calling the residual services or limited services stage. Six NHS neighborhoods are now in this residual services stage.

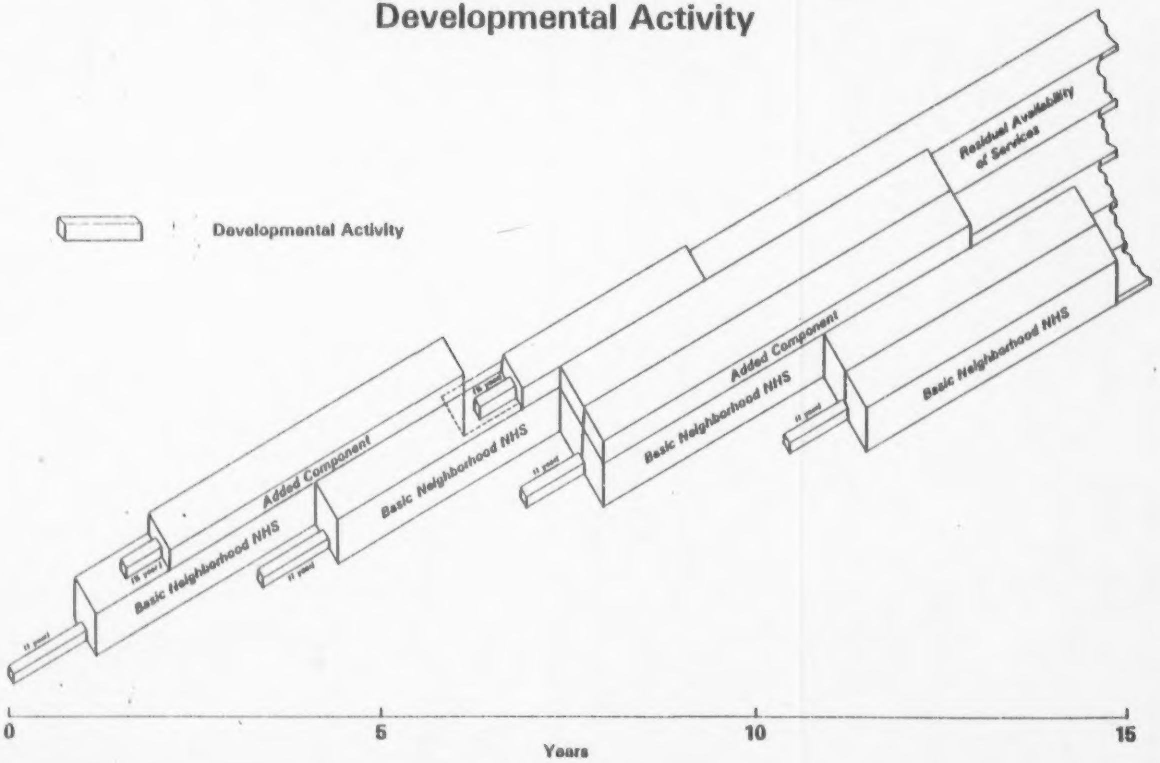
Allowing for variations in size, program difficulty, and resource availability, they took an average of 5-1/2 years to reach that stage.

Neighborhood residents have invested thousands of volunteer hours in NHS, and they will want to know that as their neighbors age and their houses age, some level of NHS services will remain available as well as access to the Revolving Loan Fund. Of course, the existing portfolio of NHS loans in the neighborhood to be serviced over the next dozen years or more, gives the NHS a financial interest in retaining strong ties with the neighborhood. Finally, as new tools are developed for problem areas which have had to be bypassed, the NHS may some day want to offer a programmatic expansion to one of its earlier neighborhoods -- say in commercial revitalization, new construction on vacant lots, management services for small apartment buildings, or a neighborhood rental services program. However, these residual services should involve a minimal cost to the NHS and no appreciable cost to Neighborhood Reinvestment in terms of additional call on Neighborhood Program Support, Training and Technical Assistance services.

The model on page 17 shows visually the way an NHS program might evolve over a fifteen year period. We show the average program in a neighborhood of 2,500 units, facing average program difficulty, and having average financial resources, which has reached a residual services stage in 5-1/2 years.

Following each block labeled, "Basic Neighborhood NHS" is a thin band labeled "Residual Availability of Services" stretching indefinitely into the future. Layered on top of several of the blocks symbolizing the basic neighborhood NHS are blocks symbolizing a programmatic expansion, such as a Home Ownership Promotion program to turn tenants into homeowners and market vacant properties, or a Rehabilitation and Sale program to bring severely deteriorated vacant buildings back into occupancy at prices that are consistent with the neighborhood real estate market.

Neighborhood Reinvestment Corporation
Developmental Activity



Neighborhood Reinvestment's developmental process activity is shown preceeding each program element becoming operational.

The scale of the blocks show a typical NHS program's 5-1/2 year life and the average one-year of developmental activity by the Neighborhood Reinvestment Corporation which preceeds the NHS becoming operational. The volume of the respective blocks is designed to show visually the leverage being achieved on Federal dollars.

The experience we have gained with the earliest 25 programs shows that the initial goals in a typical NHS neighborhood are completed in approximately 5-1/2 years. During that time, reinvestment in each neighborhood averages $12 million. Federal resources of approximately $145,000 are required to develop each Neighborhood Housing Services program and an additional $28,500 per year has been expended for Program Support, Training and Technical Assistance, program monitoring and provision of the secondary market for Revolving Loan Funds. These latter expenditures continue during the average 5-1/2 year life of each neighborhood program. The total direct Federal cost in generating the $12 million average reinvestment is approximately $300,000.

Expenses for introducing the new programmatic components are even less than the original partnership-building efforts.

During the past year, NHS Revolving Loan Funds received approximately $10,000,000 nationally in grants from local governments, foundations and private industry, and local businesses contributed over $7,000,000 to NHS operating budgets.

Beyond their financial contributions and the economic activity they stimulate in NHS neighborhoods, business leaders bring countless volunteer hours and their management expertise to the management of the NHS activities in each neighborhood.

IMPACT OF THE CURRENT ECONOMIC CLIMATE

The rapid escalation of construction costs has strained the capacity of individual local NHS Revolving Loan Funds and has in turn, strained the capacity of the secondary market which Neighborhood Housing Services of America administers for NHS Revolving Loan Fund loans. In addition, at current interest rate levels neighborhood homeowners are postponing work -- reducing program momentum and the resultant reinvestment psychology which causes a neighborhood to "take off" through private initiative.

The NHS expansion, both programmatic and geographical, discussed in the previous section, requires additional operating funds for each local NHS program undertaking it. Most of the operating budgets of NHS programs are contributed by financial institutions. The current difficult economic conditions for thrift institutions are affecting the ability of NHS programs to raise necessary additional operating budgets, and if conditions worsen, the adequacy of current operating budgets could be affected.

At the same time, as many sources of Federal assistance to neighborhoods have been recommended for reduction or elmination, the remaining source of Federal assistance, Community Development Block Grants, will be subject to intensified local competition.

To cope with the difficult operating conditions for NHS programs, Neighborhood Housing Services of America is providing leadership to broaden the base of private corporate support for local programs. Three tracks are currently being followed to accomplish this:

Track 1. Fund raising counsel, retained by NHSA, is providing training to NHSA staff and Neighborhood Reinvestment staff to counsel local programs in broadening the base of their local fund raising efforts to include a broadened sector of the local business community.

Track 2. On a pilot basis, two NHS programs are being provided direct assistance by the fund raising counsel to develop optimum ways NHS programs can approach the corporate community for funding programmatic and geographical expansions. In a pilot project in New York City, over one-third of the funding for the expanded NHS program is being sought from the corporate sector. Another pilot in the Twin Cities NHS of Minneapolis and St. Paul is seeking 25% of the budget for its expanded program from major corporations headquartered in the Twin Cities area.

Track 3. Each NHS program is being consulted with regard to goals for a major national capital campaign which will include supplementing local Revolving Loan Funds and additional capital for the secondary market for Revolving Loan Fund loans. Local programs are also being consulted on distribution formulae and leadership development for such a national campaign. Approximately one year will be required to develop a unified campaign for the one hundred plus local programs, and contributions will be realized during the following three years. In the meantime, planning is going forward on the development of leadership for such a campaign.

Even if the results of these three tracks of private fund raising efforts are successful, NHS programs can expect to be operating in a very lean way for the next one to two years, until significant additional capital becomes available for the Revolving Loan Funds and the secondary market. If operating budgets are significantly affected by the thrift industry's problems, Neighborhood Reinvestment may be required to temporarily shift resources from the development of new programs to assistance for operating NHS programs.

Three areas in which we are working to ease the impact of the present economic climate on neighborhood residents are in energy conservation, affordable housing and increased rental resources.

Energy Conservation

In deteriorated buildings which are not only inadequately insulated, but where heat streams through ill fitting windows and doors, fuel costs are especially high. Inefficient old furnaces are common in older neighborhoods and they account for a large part of the extremely high fuel bills that many residents pay.

As winter fuel bills reach $200 a month (larger than some monthly mortgage payments) they are having an increasing impact on our nation's poorer families who are already painfully hurt by the inflationary squeeze on their budgets for the necessities of life.

Because of the parallel rise in energy costs and interest rates, many residents find themselves unable to qualify for conventional financing for needed home repairs. A family's energy costs may make the difference between whether it can obtain conventional financing or whether it must turn to the NHS Revolving Loan Fund.

In this environment, a neighborhood strategy to cut the high costs of fuel combined with needed financing through the Revolving Loan Fund offers critically needed relief to lower income homeowners.

More NHSs have been making energy conservation repairs a part of their rehabilitation work and counseling wherever possible, but only rarely in a systematic fashion.

We have been working with a number of NHSs to identify the key components of, and create a model for, a neighborhood energy conservation strategy which could then be offered to all NHSs. Because of our own budgetary constraints, we have received The Ford Foundation's approval of a proposal for funding several energy conservation programs to be sponsored by Neighborhood Reinvestment and local NHSs.

The five programs chosen offer a full spectrum of neighborhood level delivery systems for energy conservation and also technical assistance to support these systems.

Each of the neighborhood energy conservation strategies bear the following characteristics:

Comprehensive -- Many issues and actors are involved in the delivery of energy conservation services to neighborhoods. The steps which each program takes into account are:

-- marketing
-- energy audit
-- materials (specifications, purchase, installation)
-- financing
-- quality control

Low Technology -- It has been NHS's experience that the simplest repairs usually are the most cost-effective as regards energy conservation. The most rudimentary aspects of energy conservation are particularly important considering the sub-standard quality of most of the housing stock in NHS neighborhoods and most center city areas.

Community Oriented -- Somehow, despite the tremendous amount of energy conservation information available, the "man in the street" often has not been motivated to do anything in his home. Building on the community's commitment to the NHS organization and utilizing a variety of techniques to communicate with residents, each program aims at securing the active interest of a large segment of its community residents.

Technically Competent -- Each program builds out from a new NHS staff role: the "energy conservation specialist." It is this person's job to be sure that the beginning (audit) and the end (quality control) of the delivery process are being accomplished competently and for the benefit of the neighborhood resident.

Neighborhood Reinvestment will provide technical assistance to NHSs through its Neighborhood Support, Training and Technical Assistance Division in the following areas:

Training -- The quantity and quality of energy conservation training in our Chicago-based Rehabilitation Intern Training Program will be increased.

In-Service Training -- Rehabilitation and Energy Conservation Specialists who are already on the job will have their skills periodically updated.

Network -- Current technical and product information will be shared throughout the NHS network.

Affordable Housing

The Owner-Built Housing program addresses the severe shortage of affordable, quality housing facing moderate income families. Based on a rural self-help model, this new program enlarges homeownership opportunity in NHS neighborhoods by families collectively building their own homes, with supervision, coordination and technical assistance provided by the NHS. The initial demonstration project in the NHS neighborhood in Oakland, California was developed in 1980. It consists of 14 families who invested 40 hours of work per week per family for a period of nearly a year. This investment has enabled each family to take title to a conventionally financed home with an estimated market value of over $80,000 by assuming a $45,000 mortgage.

In Oakland, expansion of this successful model to an additional site of eight structures is in progress. This vehicle for providing single-family homes for about half of market value is being replicated in Santa Ana, California.

Increased Rental Resources

Neighborhood Reinvestment has been identified with promoting homeownership through NHS programs. This is a valid identification and a thrust which we intend to continue pursuing; however, the erosion of rental units through condominium conversion and the high building costs and economic uncertainties that are preventing new rental units being produced, as well as concern about displacement, has made it imperative that our interest broaden to include rental resources. Pilot efforts are now underway in a number of localities in which NHS or another neighborhood nonprofit purchases and rehabilitates vacant or absentee-owned buildings and then operates them as continuing rental resources, controlled by the neighborhood, to provide for the needs of lower income neighborhood renters. We are continuing to search for additional strategies to meet this need.

Another approach with significant potential in addressing the rental housing needs of low and moderate income families is the Mutual Housing Association concept.

The Corporation, encouraged by the Committee on Banking, Housing and Urban Affairs, is conducting a national demonstration to test the viability of the Mutual Housing Association concept in the U.S. -- a concept broadly used in Western Europe, which, for example, has successfully produced 4.4 million dwelling units for over 10 million people in West Germany since World War II.

It is a concept of tenure which falls between rental and homeownership, whereby individuals seeking housing pay a modest investment fee to a Mutual Housing Association to become a member and an occupant of a Mutual Housing Association produced unit. This member earns interest annually on his investment and is returned the fee when he vacates. The investment fee and a monthly fee (comparable to rent) provide a source of capital for the maintenance of the existing housing stock of the association, as well as production of additional dwelling units. Members, along with a partnership of financial institutions, local government, and neighborhood groups, serve on a board of directors responsible for the affairs of the association.

The member is provided a quality, affordable unit without fear of displacement or rapid rent rises in exchange for a small investment of capital in the association as a requirement for membership and occupancy.

The Neighborhood Reinvestment Corporation, over the next year, will initiate development of two demonstration Mutual Housing Associations in the U.S. Through these demonstrations, Neighborhood Reinvestment will adapt the key elements of the West German experience to American institutions and create the appropriate developmental process necessary to bring into being competent, effective and publicly accountable Mutual Housing Associations.

The Corporation will be building on its 10 year experience in developing NHS programs as competent, nonprofit organizations and its experience, through the Apartment Improvement Program, in rental housing.

In the initial demonstrations, we intend to test an ideal model, independent of restrictions and limitations of existing Federal programs. Neighborhood Reinvestment is seeking financing through below market mortgage money from insurance companies and "front-end" subsidy support through foundation grants.

As requested, in September, Neighborhood Reinvestment will report to the Committee on Banking, Housing and Urban Affairs on preliminary findings on the progress of this demonstration, "as an alternative vehicle to effectively respond to the critical and growing shortage of affordable rental housing in urban areas."

We look forward to keeping both the Appropriations and Banking Committees informed as to our progress. (A comprehensive listing of all programs in operation or in development are available as Attachment E.)

FISCAL YEAR 1982 APPROPRIATION REQUEST

Neighborhood Reinvestment's budget justification is based on schedules submitted to the Office of Management and Budget as a result of the budget process. The amount requested, $14,950,000, represents a 20% increase over the $12,459,000 in appropriated funds available in Fiscal Year 1981. However, when all sources of funds are considered, the overall increase between Fiscal Year 1981 and Fiscal Year 1982 is approximately 4%. Appropriated funds represented a smaller proportion of our total Fiscal Year 1981 resources because of higher interest earnings due to market conditions, as well as the repayment of a $600,000 loan in Fiscal Year 1981 which had been made to Neighborhood Housing Services of America shortly before the close of Fiscal Year 1980 to provide the necessary liquidity to secure a new secondary market commitment.

With reference to the funds for travel requested in our budget justification, I am sure that it will again appear high when compared to other governmental departments and agencies whose budgets you review. The reason for this is that our staff, over half of whom are constantly in the field, must be highly mobile in order to carry out their work in neighborhoods in 42 states. Their travel requirements are more akin to a bank examiner's than to an analyst's or an administrator's.

The incredibly rapid escalation of travel costs during the past 18 months has required us to reduce programmatic travel whenever possible and to use every economy -- increasing the number of field offices, utilizing all possible economy fares, doubling up staff at meetings and conferences, etc. By practicing these economies we were able to operate under the Fiscal Year 1980 travel ceiling and will also complete Fiscal Year 1981 under the travel ceiling. Our Fiscal Year 1982 request already has taken all feasible economies into consideration, and allowed less for inflation than today seems prudent. We respectfully urge the Committee to approve the full amount requested.

The chart on page 28 compares our projected results in Fiscal Year 1981 with goals for Fiscal Year 1982. You will note a slight reduction in the development of new NHS programs as we have shifted a small amount of resources into the provision of additional programmatic components and neighborhood support, training and technical assistance for existing NHS programs. If the financial condition of the thrift industry, which was discussed earlier, has a significant negative impact on the operating budgets of the existing NHS programs, it may be necessary to recommend to our Board of Directors a further shift of resources from program development to technical assistance and grants to enable the NHS programs to weather the storm in the balance of Fiscal Year 1981 and Fiscal Year 1982.

	FY 1981 Projected Results	FY 1982 Goals
NEIGHBORHOOD HOUSING SERVICES		
Start new NHS developments or expansions	28	24
NEIGHBORHOOD PROGRAM SUPPORT, TRAINING AND TECHNICAL ASSISTANCE		
Start up assistance to new NHS programs	35	28
Support and technical assistance to operating NHS programs	115	142
Support and technical assistance to operating Apartment Improvement Programs	12	17
Support and technical assistance to operating Urban Lender Programs	1	3
Monitor NHS programs through on-site visits	112	120
Conduct training programs:		
NHS Executive Directors	75	85
Rehabilitation Specialists	75	85
Grants to further capitalize and support secondary market	$600,000	$800,000
NEIGHBORHOOD PRESERVATION PROJECTS		
Select new Neighborhood Preservation Projects	6	5
Develop demonstrations:		
Neighborhood Commercial Revitalization Center	2	1
Energy Impact Program	1	1
Mutual Housing Association	1	1
Prepare NPP for trial replication and testing	3	2
NEIGHBORHOOD PRESERVATION DEVELOPMENT		
Start new Apartment Improvement Program developments	5	4
Start new Home Ownership Promotion program	3	3
Start new statewide NHS foundation	0	1
Start new Insurance Industry Full Partnerships	3	3
Start new Rehabilitation and Sale programs	1	1
Start new Owner-Built Housing Programs	1	2
Start Urban Lender Programs in additional cities	2	3

ATTACHMENT A

THE NEIGHBORHOOD REINVESTMENT CORPORATION

Neighborhood Reinvestment offers proven revitalization programs to cities and neighborhoods. The organization also looks for new promising revitalization and preservation programs to develop additional tools for neighborhoods to use against decline.

Neighborhood Reinvestment acts as a catalyst, stimulating the creation and development of public-private-resident partnerships. Through these partnerships, neighborhoods in need of assistance are being revitalized and people's lives improved.

The Neighborhood Reinvestment Corporation, successor to the Urban Reinvestment Task Force, is a nonprofit public corporation with direct Congressional funding. The Corporation was created by an act of Congress in October 1978. The Corporation's Board of Directors includes the heads of the federal financial regulatory agencies -- the Chairman of the Federal Home Loan Bank Board, the Comptroller of the Currency, the Chairman of the Federal Deposit Insurance Corporation, a member of the Board of Governors of the Federal Reserve System, the Chairman of the National Credit Union Administration -- and the Secretary of the U.S. Department of Housing and Urban Development. The Federal Home Loan Bank Board Chairman serves as the Chairman of the Corporation's board of directors.

HISTORY

Neighborhood Reinvestment had its beginning in the Federal Home Loan Bank Board in the early 70's. The Bank Board was seeking new ways for savings and loans to become more involved in urban lending. To accomplish this, the Bank Board began conducting partnership workshops in a number of cities around the country. The workshops brought together lenders, community representatives and local government representatives to explore potential approaches and solutions. While conducting a partnership workshop in Pittsburgh, the Bank Board staff discovered a program which has become the backbone of the Neighborhood Reinvestment Corporation's activities -- the Neighborhood Housing Services (NHS) program.

Neighborhood Housing Services began in Pittsburgh in the late 60's. Community representatives, lenders, and Pittsburg city officials had put together a locally controlled, private nonprofit corporation. The program was based on a partnership in which these three groups worked together to revitalize the Central Northside neighborhood. NHS offered comprehensive housing rehabilitation services to residents of the neighborhood and was having significant results in restoring confidence and improving the neighborhood. After carefully monitoring and evaluating the program, the Bank Board recommended that the program be replicated (NHS) on a trial basis in other cities.

During this period, 1972-1974, the work and the promise of these local Neighborhood Housing Services began to be recognized. In 1974, the Bank Board and the U.S. Department of Housing and Urban Development joined forces and created the Urban Reinvestment Task Force to expand on the Bank Board initiative. Shortly afterwards, they were joined by the Board of Governors of the Federal Reserve System, the Comptroller of the Currency and the Federal Deposit Insurance Corporation.

Legislation creating Neighborhood Reinvestment and changing its status from a demonstration program to an ongoing corporate entity was passed by Congress and signed by the President in October of 1978. At that time, the Chairman of the National Credit Union Administration was added to the Urban Reinvestment Task Force members to form the Board of the Corporation.

NEIGHBORHOOD HOUSING SERVICES

The major effort of Neighborhood Reinvestment is developing Neighborhood Housing Services programs. NHSs are based on working partnerships of community residents and representatives of local governments and financial institutions. They are private, nonprofit corporations which offer comprehensive housing rehabilitation services to residents of locally-selected neighborhoods. These services include rehabilitation counseling, construction assistance, financial counseling and loan referrals.

NHS relies on strong, meaningful participation by each member of the partnership. Following are the five key elements of an NHS program.

Residents -- Residents play a leadership role, generated by a genuine interest in improving their neighborhood. They commit to investing in their homes and working toward upgrading their community. In addition, residents also work with local government officials to implement a sensitive housing inspection program and help actively promote NHS goals. Residents of the NHS neighborhood make up a majority on the NHS board of directors and serve on all committees.

Lenders -- Financial institutions play a significant role in the reinvestment taking place in the neighborhood through NHS. Lenders agree to make market rate loans to all homeowners in the NHS neighborhood who meet normal underwriting criteria. They actively serve on the boards of directors, sharing their managerial skills and financial knowledge. Lenders also support the NHS operating budget through tax-deductible contributions.

Local Government -- Local government is involved in the program from the beginning. It usually provides the funds for developing the NHS. Additionally, local government officials work with the NHS to provide a systematic housing inspection program that is sensitive and flexible. A key commitment is increasing capital improvements and City services in the target area, visibly demonstrating to residents the City's involvement in the program.

Revolving Loan Fund -- One of the most essential elements in the NHS program is the revolving loan fund. This fund is used to make loans to residents who do not meet normal, conventional credit standards. As the purpose of the fund is to provide loans, not grants, each loan is designed to fit the ability of the borrower to repay with flexible terms and interest rates. The fund provides every resident with the opportunity to improve their home. The money is raised locally.

An Operating NHS Program -- An NHS program is guided by a local board of directors comprised of members of the partnership. The program operates in a locally-selected neighborhood with a small professional staff.

THE ROLE OF NEIGHBORHOOD REINVESTMENT IN NHS DEVELOPMENT

Neighborhood Reinvestment facilitates the development of NHS in cities by bringing together members of the partnership in a coordinated process. Initially, Neighborhood Reinvestment reviews the applications, usually submitted by local governments, and then conducts field visits to determine if the elements for a potentially successful NHS program are present. These elements include local resources and leadership among institutions concerned with neighborhood revitalization. The next step involves entering into a developmental agreement with a local entity, again, usually a local government, to assist residents, lenders and City officials in creating the program. The local entity provides developmental funding in the range of $35,000 to $50,000, depending on the number of neighborhoods where the program will operate. These costs include a local, full time staff person hired by Neighborhood Reinvestment to coordinate the NHS developmental process for six months to a year and a series of educational workshops, including a visit for participants to an operating NHS program.

Once the NHS is organized, Neighborhood Reinvestment plays a support role providing the following services -- assisting the local board as they select permanent staff; providing training for the Executive Director and the Rehabilitation Specialist; helping the staff establish operating procedures and record keeping systems for the office; and providing informational materials and other assistance as requested by NHS boards of directors.

ATTACHMENT B

DEMOGRAPHIC PROFILE OF NHS NEIGHBORHOODS

CITY NAME	NEIGHBORHOOD NAME	POPULATION	% MINORITY	% OVER 65	MEDIAN INCOME*	# UNITS	% OWNER OCCUPIED	MED VALUE SINGLE FAMILY
ALBUQUERQUE	DOWNTOWN	6,000	70% H	21%	$5,653	1,500	50%	$10,545
ALLENTOWN	OLD ALLENTOWN PRES AREA	5,000	5% B	%	$7,734	2,099	40%	
ATLANTA	GRANT PARK	8,500	45% B O	%	$6,735	3,098	53%	
AURORA	N.E. AURORA & OAK PARK	13,578	33% BH	11%	$8,837	3,215	66%	$16,350
BALTIMORE	GOVANS-PEN LUCY	12,547	83% B	20%	$7,560	2,562	60%	$7,000
BALTIMORE	PATTERSON PARK	18,000	10% B	20%	$8,083	5,000	50%	$7,000
BARBERTON	VAN HYNING	457	0%	18%	$7,113	1,075	61%	$1,500
BELOIT	MERRILL	2,900	55% B	25%	$12,400	725	63%	
BIRMINGHAM	BUSH HILLS	3,000	30% B	18%	$11,346	5,022	58%	$13,200
BOSTON	MISSION HILL	16,820	15% B	15%	$7,397	4,985	33%	$15,370
BOSTON	COLUMBIA-SAVIN HILL	26,363	13% B	20%	$8,505	8,620	87%	$14,285
BRIDGEPORT	UPPER EAST SIDE	13,381	33% BHO	13%	$6,837	5,258	67%	$18,400
BRIDGEPORT	SOUTH END	10,000	50% BH	%	$5,803	659	63%	
BUFFALO	SOUTH BUFFALO	11,683	1% B	10%	88%	4,080	84%	$13,150
BUFFALO	KEN BAILEY/DELAVAN	7,110	33% B	13%	$10,396	6,816	60%	$13,335
BUFFALO	BROADWAY-FILLMORE	6,275	25% B	36%	$8,940	2,735	74%	$8,050
BUFFALO	MASTEN	15,673	89% B	9%	$10,398	4,856	41%	$10,950
BUFFALO	BLACK ROCK-RIVERSIDE	19,700	1% B	13%	$11,019	6,900	78%	$18,250
BUFFALO	WEST SIDE	6,565	5% B	12%	$11,748	2,596	69%	$10,450
CHARLESTON	GADSEN GREEN	3,542	99% B	9%	82%	914	28%	$11,700
CHARLESTON	LOWER WESTSIDE	4,558	40% B	28%	$7,235	1,918	46%	$10,000
CHARLOTTE	PLAZA-MIDWOOD	3,040	18% B	16%	86%	1,078	63%	$11,800

Demographic information was compiled during the development process and represents the best available data at the time
*Neighborhood median income as a percent of city median income is presented in some cases due to a change in the reporting process.

DEMOGRAPHIC PROFILE OF NHS NEIGHBORHOODS

CITY NAME	NEIGHBORHOOD NAME	POPULATION	% MINORITY		% OVER 65	MEDIAN INCOME	# UNITS	% OWNER OCCUPIED	MED VALUE SINGLE FAMILY
CHATTANOOGA	GLENWOOD	4,000	75%	B	%			83%	
CHELSEA	CHELSEA	2,000	5%	H	14%	90$	853	60%	$13,600
CHEYENNE	SOUTHSIDE	2,383	45%	H	%		848	63%	$32,000
CHICAGO	WEST HUMBOLDT	27,000	72%	BHO	20%	$10,000	5,152	65%	$34,000
CHICAGO	HEART OF CHICAGO	23,000	40%	H	17%	$9,000	3,000	75%	$11,525
CHICAGO	NEAR NORTHWEST	20,089	40%	H	20%	$8,380	5,554	75%	$13,190
CHICAGO	WEST ENGLEWOOD	18,000	85%	B	%	$7,500	3,000	85%	
CHICAGO	CENTRAL AUSTIN	18,000	80%	B	25%	$8,880	4,552	82%	$16,025
CHICAGO	LITTLE VILLAGE	25,000	75%	H	%	$8,691	5,000	65%	
CINCINNATI	MADISONVILLE	13,734	45%	B	24%	$7,500	5,082	81%	$13,810
CINCINNATI	EVANSTON	13,327	88%	B	28%	$8,170	5,104	58%	$14,075
CLEARWATER	SOUTH GREENWOOD	3,000	14%	B	30%	$14,800	1,849	68%	$12,350
CLEVELAND	NEAR WEST SIDE	9,898	35%	HO	15%	$8,384	3,080	64%	$11,530
CLEVELAND	BUCKEYE	12,000	60%	B	15%	$9,031	8,064	45%	$16,850
COLORADO SPRINGS	VERMIJO-CUCHARRAS	2,343	18%	H	%	$9,018	781	60%	
COLUMBUS	LINDEN HILL	10,000	50%	B	15%	$10,800	2,545	70%	$18,000
DALLAS	MT AUBURN-SANTA FE-OWENWOOD	7,000	14%	B	21%	$8,534	2,364	44%	$10,767
DALLAS	NORTH PARK/LOVE FIELD	8,691	77%	B	9%	$7,969	2,091	57%	$36,500
DALLAS	TRINITY HEIGHTS	7,587	87%	B	6%	$6,412	2,132	47%	$10,400
DAVENPORT	EAST VILLAGE	3,145	20%	B	15%	$15,688	1,703	55%	$22,000
DENVER	HIGHLAND	8,721	70%	BH	%	$10,234	2,708	83%	$25,500
DES MOINES	HARDING	3,500	5%	B	35%	$10,500	1,825	65%	$28,000
DETROIT	HIGHLAND PARK	4,800	90%	B	5%	$14,000	1,024	49%	$14,300

DEMOGRAPHIC PROFILE OF NHS NEIGHBORHOODS

CITY NAME	NEIGHBORHOOD NAME	POPULATION	% MINORITY		% OVER 65	MEDIAN INCOME	# UNITS	% OWNER OCCUPIED	MED VALUE SINGLE FAMILY
DURHAM	OLD NORTH DURHAM	3,000	45%	B	%	112%	580	50%	$15,000
E PROVIDENCE	RIVERSIDE	4,800	3%	B	%		1,600	65%	
EVANSVILLE	MAPLE GROVE (SWEETSER)	542	48%	B	13%	$12,140	178	72%	$17,000
FT WORTH	POLYTECHNIC	3,887	85%	BH	17%	$7,541	2,500	84%	$15,000
GREAT FALLS	OLD TOWN	5,050	18%	O	32%	$8,000	1,250	36%	$30,000
HARTFORD	BLUE HILLS	4,200	83%	BH	9%	$8,600	1,200	50%	$20,750
INDIANAPOLIS	BUTLER-TARKINGTON	5,080	88%	B	%	98%		53%	$12,200
INGLEWOOD	LOCKHAVEN	7,712	80%	BH	8%	80%	2,300	56%	$22,600
ITHACA	SOUTHSIDE	5,350	30%	B	%	80%	2,300	56%	$20,000
JACKSON	WEST JACKSON	1,500	70%	B	23%	$14,000	690	51%	
JACKSON	WEST JACKSON	1,500	70%	B	%	$14,000	680	80%	
JACKSONVILLE	SPRINGFIELD	2,786	40%	B	12%	$3,720	1,019	48%	$7,000
JAMAICA	BAISLEY PARK	7,183	98%	B	22%	$10,000	3,305	67%	$28,300
KANSAS CITY	CENTER CITY/SOUTH HYDE PARK	9,886	24%	B	21%		4,469	38%	$12,000
KANSAS CITY	49-63 (EASTERN)	4,400	25%	B	30%	93%	1,850	60%	$12,200
KNOXVILLE	PARK CITY	3,247	48%	B	19%	74%	1,445	45%	$8,500
LA HABRA	NONE	41,350	40%	H	13%	69%	2,042	44%	$18,600
LAWRENCE	ARLINGTON	10,000	80%	H	10%	80%	2,400	73%	$20,000
LITTLE ROCK	CENTRAL LITTLE ROCK	8,000	55%	B	17%	$6,500	2,000	50%	$12,700
LOUISVILLE	SHAWNEE	4,000	80%	B	9%	$7,906	2,300	88%	$12,100
MACON	MONTPELIER	5,304	80%	B	%		1,788	40%	$25,000
MENLO PARK	BELLEHAVEN	4,656	98%	BH	%	$7,658	1,348	54%	
MIAMI	WEST LITTLE RIVER	7,955	85%	B	6%	$11,300	2,096	57%	$15,523

DEMOGRAPHIC PROFILE OF NHS NEIGHBORHOODS

CITY NAME	NEIGHBORHOOD NAME	POPULATION	% MINORITY	% OVER 65	MEDIAN INCOME	# UNITS	% OWNER OCCUPIED	MED VALUE SINGLE FAMILY
MILWAUKEE	NORTH SIDE	12,226	80% B	10%	$7,700	3,624	54%	$10,067
MILWAUKEE	SOUTHSIDE	10,407	35% H	11%	79%	3,514	45%	$10,075
MINNEAPOLIS	REGINA	2,000	60% B	%	$17,000	848	87%	
MINNEAPOLIS	SOUTHSIDE	6,386	52% B D	14%	$8,000	3,825	72%	$30,000
MINNEAPOLIS	NORTHSIDE - WILLARD/HOMEWOOD	5,000	50% B	%	$9,500	2,250	74%	
NASHVILLE	INGLEWOOD	5,453	70% B	%	$11,500	1,840	58%	
NASHVILLE	WAVERLY-BELMONT-HILLSBORO	3,485	65% B	27%	$8,210	1,180	37%	$14,300
NEW BRITAIN	BROAD AND NEWBRITE	12,208	55% BH	8%	82%	4,181	83%	$33,000
NEW HAVEN	UPPER STATE, DWIGHT/EDGEWOOD	6,438	35% H	%	93%	2,146	57%	
NEW ORLEANS	BROADMOOR	7,487	80% B	15%	$15,328	1,471	34%	$35,000
NEWARK	WEEQUAHIC PARK	17,828	93% B	14%	$8,689	6,498	51%	$20,075
NIAGARA FALLS	AREA 4	8,000	12% B	30%	90%	2,557	61%	$13,250
NORWALK	SOUTH NORWALK	8,812	50% BH	%	57%	1,804	54%	
OAKLAND	ELMHURST	18,328	85% B	17%	$8,500	5,502	55%	$18,125
PASADENA	N W PASADENA	5,030	98% B O	8%	73%	2,300	66%	$17,034
PEORIA	WEST BLUFF	8,055	3% B	10%	$14,300	3,319	66%	$16,700
PHILADELPHIA	ALLEGHENY WEST	13,130	90% B	13%	$8,200	3,520	71%	$6,748
PHILADELPHIA	EAST FRANKFORD	8,828	40% B	27%	$8,990	5,510	56%	$7,858
PHOENIX	PHOENIX	5,000	13% B	33%	75%	1,697	57%	$12,200
PITTSBURGH	CENTRAL NORTHSIDE	7,303	50% B	32%	60%	3,566	27%	$7,010
PLAINFIELD	PLAINFIELD	6,357	85% B	11%	84%	252	91%	$17,700
PONTIAC	PONTIAC	3,000	97% B	%	$15,438	1,501	71%	$14,000
PROVIDENCE	ELMWOOD	14,456	40% BH	20%	80%	3,500	24%	$12,000

DEMOGRAPHIC PROFILE OF NHS NEIGHBORHOODS

CITY NAME	NEIGHBORHOOD NAME	POPULATION	% MINORITY	% OVER 65	MEDIAN INCOME	# UNITS	% OWNER OCCUPIED	MED VALUE SINGLE FAMILY
PUEBLO	MINNEQUA HEIGHTS	4,213	35% H	8%	$8,800	1,657	78%	$18,000
QUINCY	SOUTHWEST	6,560	%	%	$10,524	2,306	%	$35,000
RACINE	NORTHSIDE	5,850	20% BH	14%	$7,534	1,817	50%	$12,800
READING	WARD 6	2,603	90% BH	10%	79%	945	83%	$6,400
ROCHESTER	BROWN SQUARE/EDGERTON	11,000	5% B	12%	$10,000	4,318	44%	$12,733
SAGINAW	CENTRAL EAST	11,589	50% B	11%	78%	4,003	48%	$11,100
SALT LAKE CITY	CENTRAL EAST	3,700	1% B	15%	99%	3,268	66%	$14,900
SAN ANTONIO	WEST SIDE	10,700	95% H	17%	57%	2,814	41%	$7,100
SAN BERNARDINO	CT 47-48	8,700	100% BH	%		2,300	58%	
SANTA ANA	ARTESIA/PILAR	3,873	74% HO	5%	63%	1,259	72%	$18,900
SAVANNAH	BALDWIN PARK	2,348	80% B	19%	$10,241	1,041	57%	$10,000
SHREVEPORT	QUEENSBOROUGH	3,000	80% B	%		1,000	63%	$28,800
SOUTH BEND	NEAR NORTHWEST	13,041	12% BH	22%	$10,000	3,864	55%	$10,500
SOUTH PORTLAND	FERRY VILLAGE	2,500	%	9%	70%	769	66%	$11,200
SPRINGFIELD	SOUTH CENTRAL	3,880	55% B	14%	$8,000	2,034	50%	$10,500
SPRINGFIELD	UPPER HILL	10,000	70% B	15%	$8,819	2,325	60%	$22,000
ST LOUIS	SOULARD	11,865	1% B	24%	$10,000	5,121	18%	$7,210
ST PAUL	WESTSIDE		40% H	%	$14,297		73%	
ST PAUL	MERRIAM PARK	13,000	2% B	15%	$10,802	4,821	78%	$30,000
ST PAUL	DAYTON'S BLUFF	7,250	5% B	%	$16,125	3,800	81%	
ST PETERSBURG	LASSING PARK	2,238	5% B	%	$8,329	1,217	48%	$18,145
SYRACUSE	BRIGHTON	12,576	35% H	13%	$10,500	3,482	55%	$12,867
TACOMA	S TACOMAWAY	3,000	5% B	7%	94%	1,490	64%	$13,500

DEMOGRAPHIC PRUFILE OF NHS NEIGHBORHOODS

CITY NAME	NEIGHBORHOOD NAME	POPULATION	% MINORITY	% OVER 65	MEDIAN INCOME	# UNITS	% OWNER OCCUPIED	MED VALUE SINGLE FAMILY
TAMPA	HYDE PARK	8.000	17% B	40%	83%	3.000	67%	$12.200
TOLEDO	OLD WEST END	18.528	60% B	12%	$9.178	7.463	65%	$12.200
TOLEDO	HISTORIC SOUTH SIDE	9.531	14% H	13%	77%	3.333	51%	$9.450
TRENTON	WILBUR	8.282	50% B	16%	$8.219	2.046	71%	$10.319
TUCSON	PUEBLO GARDENS	2.428	72% BH	11%	$6.935	786	56%	$10.900
TULSA	N W CROSSROADS	6.496	80% B	13%	85%	2.512	70%	$8.000
UNION COUNTY	* LINDEN	4.435	76% B	5%	$9.780	1.330	55%	$21.300
UNION COUNTY	RAHWAY	6.576	30% B	11%	$11.017	2.200	54%	$20.500
UNION COUNTY	ROSELLE	5.308	86% B	8%	$10.047	1.596	61%	$20.800
UTICA	CORNHILL	13.214	60% B	17%	$8.782	2.322	65%	$13.200
VALLEJO	SOUTH VALLEJO	2.864	25% B	%		1.128	68%	
WASHINGTON	BLMINGDALE/ECKNGTN/EDGEWD	7.700	35% B	%	$8.558	3.448	74%	
WASHINGTON	ANACOSTIA	16.138	96% B	8%	80%	10.172	81%	$16.285
WATERBURY	WILLOW PLAZA.CROWNBRK.NEW PAC	10.500	30% BH	%	$8.637	3.500	80%	$22.000
WATERLOO	MODIFIED THREE	5.345	88% B	11%	$8.973	1.525	75%	$9.931
WEST PALM BEACH	GARDEN DISTRICT	3.500	50% BH	%	$8.382	2.658	65%	$30.258
WILMINGTON	THE BOTTOMS	3.385	99% B	14%	75%	891	60%	$7.000

ATTACHMENT C

ESTIMATE OF THE LEVERAGED IMPACT
OF
NEIGHBORHOOD HOUSING SERVICES PROGRAMS
THROUGH FISCAL YEAR 1981

Support for Local NHS Program Activity

Contributions to developmental costs (primarily by local government)		$ 5,000,000
Contributions to NHS operating budgets (primarily by financial institutions)		32,000,000
Contributions to NHS revolving loan funds (local government, Neighborhood Reinvestment Corporation, foundations, other industry)		41,000,000
Purchase of NHS loans (by Neighborhood Housing Services of America)		3,000,000
City expenditures for code inspections		9,000,000
	TOTAL	$ 90,000,000

Reinvestment in NHS Neighborhoods *

Loans made through NHS loan funds		20,000,000
Loans made through financial institutions by referral from NHS		91,000,000
Loans made by city/state loan programs		20,000,000
New mortgages written in NHS neighborhoods		300,000,000
Other rehabilitation financed **		202,000,000
Capital improvements to NHS neighborhoods		45,000,000
	TOTAL	$ 678,000,000

Federal Investment

Federal funds expended or committed to date (Urban Reinvestment Task Force demonstration grants 1974-1979 of $23,625,000, FY 80 appropriation of $12,000,000, and FY 81 appropriation of $12,459,000)	$ 48,084,000

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* Estimates based on data collected for the evaluation of Neighborhood Housing Services programs by the U.S. Department of Housing and Urban Development (conducted by Urban Systems Research and Engineering, Inc.) Describing Target Neighborhoods, April, 1980, and unpublished draft of final report.

** Work financed by individuals through savings or money borrowed independently from financial institutions.

ATTACHMENT D

CURRENTLY FUNDED NEIGHBORHOOD PRESERVATION PROJECTS

Energy Conservation

- Elmwood NHS Energy Conservation Project
  (Providence, Rhode Island)

  The Providence Elmwood NHS is developing an energy conservation program that provides a comprehensive energy audit program and educational outreach. The energy audit will (1) evaluate the effects of physical problems on energy consumption, (2) determine the effects of living patterns and habits on energy consumption, and (3) analyze energy costs related to a building's cash flow. The educational outreach includes seminars, workshops and working models demonstrating how various energy conservation measures can actually be used.

- Ferry Village NHS Energy Conservation Project
  (South Portland, Maine)

  Ferry Village NHS is systematically integrating energy conservation audit and repair procedures into its operations. Energy conservation is being tested as an alternative to sensitive code enforcement in the marketing of the NHS's comprehensive rehabilitation services. In-home discussions and workshops for small groups of residents also demonstrate cost-effective do-it-yourself energy conservation techniques.

- Salt Lake City NHS Energy Conservation Project
  (Salt Lake City, Utah)

  Salt Lake City NHS is coordinating the full spectrum of existing energy conservation resources for its neighborhood. Partners with the NHS in this effort include: city and state governments, utility companies, schools, lending institutions, contractor trade associations, and community action programs. The comprehensive energy conservation plan evolved in the NHS neighborhood will serve as a model for other neighborhoods in the city.

Preventing Displacement

1. Baltimore NHS Anti-Displacement Project
   (Baltimore, Maryland)

   The Baltimore Patterson Park NHS is addressing the problems of displacement through the Home Maintenance Program and the Neighborhood Rental Services Program. The Home Maintenance Program provides routine and emergency home maintenance services to elderly and physically handicapped homeowners who are unable to perform routine maintenance. The Neighborhood Rental Service is a separate corporation formed by the NHS to acquire, rehabilitate, and rent problem rental properties on specific target blocks. The program combines acquisition loans from the NHS High Risk Revolving Loan Fund, Existing Section 8 Housing Assistance Payments and 312 loans. After rehabilitation the properties are rented to neighborhood residents.

2. Jubilee Cooperative Conversion Project
   (Washington, D.C.)

   Jubilee Housing, Inc., assists low- and moderate-income tenants in the Adams Morgan neighborhood by converting apartment buildings to cooperative ownership for existing tenants. The conversion process includes (1) acquisition, (2) initial rehabilitation to secure the buildings and improve the residents' living conditions, (3) development of tenant responsibility to increase apartment management and building maintenance skills among residents through a committee structure, (4) increasing building safety, (5) refinancing for break-even operation when existing rents can support a mortgage and operating expenses, and (6) conversion to resident cooperative ownership. Tenant participation is extensive throughout the Jubilee process.

3. Mutual Housing Conversion Project
(Chicago, Illinois)

The Chicago NHS's Redevelopment Corporation (NHSRC) is pursuing a pilot process which encompasses the concepts of mutual housing, turnkey development, and the attraction of private investment capital. NHSRC is renovating and stabilizing the tenancy of a moderate-sized apartment building for conversion to ownership by a mutual housing association.

Preventing Default and Foreclosure

1. West Englewood NHS Pilot Program for HUD/FHA Foreclosed and Abandoned Single-Family Properties Project
(Chicago, Illinois)

The Chicago West Englewood NHS project provides additional services to an NHS neighborhood experiencing substantial foreclosure and abandonment of FHA single-family insured mortgages. The strategy is for the NHS to intervene in the decision-making process that leads to foreclosure and abandonment, and to make specific recommendations to HUD at key points in the process. The elements that are added to the NHS model include: (1) default, credit, and prepurchase counseling, (2) property management, and (3) rehab and sale. The program is financed by a contract with HUD for area management broker services, lender contributions, and program grants.

Recycling Blighted Properties

1. Baltimore City 26(h) Project
(Baltimore, Maryland)

The City of Baltimore administers a program to acquire and rehab blighted, privately owned properties which the owner cannot or will not repair. In order to enhance the neighborhood stability, the city then sells the properties to people who will be owner-occupants. A Vacant House Advisory Committee composed of the NHS Board and housing officials selects properties which the city acquires, rehabilitates and sells at the fair market value. The difference between the fair market value and the actual costs is subsidized by municipal funds. The program operates in the Baltimore Govans NHS neighborhood.

New Construction in Older Neighborhoods

1. Chicago NHS In-Fill Housing Project
(Chicago, Illinois)

The NHS Development Corporation, a non-profit subsidiary of NHS of Chicago, is constructing single-family homes on scattered vacant sites in the Heart of Chicago NHS neighborhood. The city provides funds for acquisition, and local lenders provide construction and permanent mortgage financing. The NPP grant is being used for down-payment assistance to qualified home buyers in order to reduce the cost of construction and bring the sales price within the neighborhood real estate market. The NHS markets the houses, screens potential buyers, selects finalists by lottery and assists in loan processing and closing.

2. Oakland NHS Owner-Built Housing Project
(Oakland, California)

The Oakland NHS program is a single-family housing construction process that helps moderate-income homeowners to collectively build their own homes with technical assistance from the NHS and financing from private lenders. The process includes (1) acquiring 14 contiguous lots in the NHS neighborhood that are owned by the city, (2) recruiting home builders through the news media and neighborhood publicity, (3) obtaining conventional financing for qualified borrowers from local lenders, (4) developing house plans and cost estimates, (5) providing pre-construction training, and (6) supervising construction.

3. Elmhurst Scatter-Site In-Fill Housing Project
   (Oakland, California)

   An analysis of (1) job site security on scatter-site lots, (2) cost-reducing construction techniques, and (3) anti-speculation deed restrictions for scatter-site new construction in NHS neighborhoods. The report will identify essential elements for replication and outline a possible replication process.

Housing Management

1. Housing Resource Center
   (Chicago, Illinois)

   The Housing Resource Center offers technical assistance to the owners of small apartment buildings, improving their profitability so that reinvestment in the buildings is possible. The Center will train resident managers and offer financial management counseling to owners as part of its full range of tenant and landlord services.

2. Flatbush Development Corporation
   (Brooklyn, New York)

   The Flatbush Development Corporation's Housing Management Program is a non-profit community-based apartment management service. This program provides comprehensive professional management services to landlords on a fee basis, allowing the operating expenses of the service to be partially offset from management income. The institution of sound management practices will include planned reinvestment and maintenance while yet not forcing the displacement of present low- and moderate-income tenants.

Neighborhood Crime Prevention Strategies

1. Kansas City NHS Crime Prevention Project
   (Kansas City, Missouri)

   The NHS of Kansas City is attempting to reduce both crime and the fear of crime through two strategies: (1) organizing block clubs and (2) recycling vacant properties. Property reuse is the most significant element of this program because the highest proportion of neighborhood crime occurs near vacant properties. The NHS acquires property from the city and transfers it to neighborhood residents or non-profit groups who then redevelop the properties. The city provides additional acquisition funds to cover the cost of title searches, legal fees and property acquisition from private parties. Block clubs learn to use existing crime prevention resources such as Operation Identification, the Free Lock Program, Block Watchers and Home Security Audits. The NHS serves as an information and referral center, and crime prevention staff work as neighborhood advocates.

Neighborhood Environment Improvement

1. Allegheny West NHS Front Yard Improvement Project
   (Philadelphia, Pennsylvania)

   Philadelphia Allegheny West NHS is developing design standards and financial packages for making outside residential improvements on neighborhood blocks. A manual of design variations will be produced including graphics, lists of materials necessary, itemized costs and various options. The program offers partial rebates on the cost of exterior improvements as an incentive for complying with local code enforcement.

Neighborhood-Based Education

1. Liaison Citizen, Inc.
   (Los Angeles, California

   Liaison Citizen is a sixteen-week program which trains youth and adults in communications and citizenship skills. The program is designed so that trainees will better understand and function within the governmental/political system, thus enabling them to contribute positively to their communities. At the conclusion of the training program, graduates involve themselves in creative community projects. The program operates in the Crenshaw neighborhood and is coordinated with the Apartment Improvement Program.

2. Foundation for Community Service Television
(Los Angeles, California)

The Foundation for Community Service Television has formed a partnership with the Inglewood School Board, the Inglewood NHS and a local cable operator to offer local high school students the opportunity to use video programming to document the background and culture of their community. This knowledge base is designed to enhance their sense of community and enable them to address more serious pressures in the community such as deteriorated and substandard housing, vandalism and increasing neighborhood crime. The resulting video program will be made available to neighborhood viewers with free installation of cable T.V. service.

Commercial Revitalization

1. Philadelphia Corridor Manager Project
(Philadelphia, Pennsylvania)

The Corridor Manager Program provides services to three neighborbood merchant associations including those located in the Alleghany West NHS and adjacent to the East Frankford NHS. The Program (1) assists in developing incentive packages for merchant association memberships such as insurance programs and security services and (2) provides technical expertise in advertising, promotional activities, management and merchandising assistance. Three neighborhood commercial areas share the services of two corridor managers. This enables each area to benefit from professional expertise without having to assume the total financial responsibility for staff salary. The merchant associations will provide financial support to maintain the corridor managers after project development is completed.

2. St. Johns Business District Stabilization Project
(Portland, Oregon)

The City of Portland has a program in the St. Johns Business District which combines major physical improvements in the commercial area with work in the surrounding residential neighborhood. The program also seeks to secure reinvestment from existing merchants and to attract new businesses to the area. An Investors Guide has been prepared to market the area's economic and physical advantages. A targeted remodeling program provides free architectural assistance and financial incentives including the city's Investor Rehabilitation Loan Program and SBA.

3. York Road Planning Area Committee (YRPAC)
(Baltimore, Maryland)

YRPAC formulates development policies and strategies for a commercial area bordering the Baltimore Govans NHS. A small staff conducts planning activities and provides financial packaging to assist existing and potential entrepreneurs. Financial incentives include: (1) the city's low-interest rehab loan program, (2) SBA direct and guaranteed financing, and (3) a high risk revolving loan fund administered by Yorky Development Company, a subsidiary of YRPAC.

4. Greater Southwest Development Corporation
(Chicago, Illinois)

The Greater Southwest Development Corporation is coordinating and building upon existing neighborhood-based programs currently serving and contributing to the revitalization of the Chicago Lawn and West Lawn neighborhood business districts. This program is developing local business leadership, which is working to create a special service assessment area to cover staff costs, coordinate promotion, design standards, special building codes and other appropriate programs to support the businesses in the area.

5. Atlanta Commercial Partnership Development
(Atlanta, Georgia)

Neighborhood Reinvestment is creating a full neighborhood commercial partnership in the West End, based on our successful experiences with other commercial projects. This site was selected by the Commercial Reinvestment Task Force. Development activities are underway with the merchants, property owners, financial institutions, city officials and neighborhood residents. The objective is to create a comprehensive neighborhood commercial revitalization program with a local board of directors, an operating budget, and a full-time staff who will undertake merchant promotions, new development, long-range planning and other activities that will enhance the capacity of the merchants to serve the neighborhoods.

6. Bridgeport NHS Commercial Partnership Development
(Bridgeport, Connecticut)

The Bridgeport NHS and the East Main Street Revitalization Committee are undertaking an innovative program expansion that will add merchants as a new and full partner to the existing NHS. A market study is underway and Neighborhood Reinvestment is helping to create a merchant partnership using the same approach as in Atlanta. The objective is full-time staff that will address merchants' concerns and enhance their capacity to serve the neighborhoods.

New Resources for Neighborhood Housing Services

1. Energy Company Partnerships

The Energy Company Project is exploring the possibility of energy company participation in NHS partnerships in energy-impacted communities. In the Casper, Wyoming NHS development, participants have decided to encourage energy company involvement. Other sites will be assessed.

PROGRAMS TRANSFERED TO NEIGHBORHOOD PRESERVATION DEVELOPMENT FOR TRIAL REPLICATION

1. New York Yonkers Apartment Building Rehabilitation Project - Apartment Improvement Program
2. California Berkeley Pilot Rehabilitation Project - Neighborhood Conservation Services
3. Baltimore NHS Home Ownership Development and Marketing Project - Home Ownership Promotion
4. Boston Jamaica Plain Vacant Housing Renovation, and Baltimore 26(h) Project - Rehabilitation and Sale Program
5. California Neighborhood Housing Services Foundation - Statewide NHS Foundation
6. Pueblo Rehab Training Project, and SWAP (Stop Wasting Abandoned Properties) Vacant and Abandoned House Strategies
7. Oakland NHS Owner-Built Housing Project - New Construction in Older Neighborhoods

OTHER PROJECTS COMPLETED

1. Central Hoboken Tenement Rehabilitation Project
   (Hoboken, New Jersey)
2. Northwest Hartford Commercial Revitalization Project
   (Hartford, Connecticut)
3. Oak Park Neighborhood Preservation Project
   (Oak Park, Illinois)
4. Crown Hill Delead Project
   (Worcester, Massachusetts)
5. Cleveland Heights Comprehensive Real Estate Project
   (Cleveland, Ohio)
6. East Toledo Neighborhood Commercial Revitalization Project
   (Toledo, Ohio)
7. Central Northside Pittsburgh Neighborhood Preservation Project
   (Pittsburgh, Pennsylvania)
8. Housing Conservation Institute
   (San Francisco, California)
9. Buckeye Road Commercial Revitalization Project
   (Cleveland, Ohio)
10. Lefrak City Neighborhood Stabilization Project
    (Corona, New York)
11. Duplex As A Starter Home Project
    (Milwaukee, Wisconsin)
12. Minneapolis Southside NHS Crime Prevention Project
    (Minneapolis, Minnesota)
13. Mission Hill NHS Congregate Housing Project
    (Boston, Massachusetts)
14. Eugene Municipal Rent Supplement Project
    (Eugene, Oregon)
15. Savannah Neighborhood Action Project
    (Savannah, Georgia)
16. Jamaica Queens NHS Home Maintenance Training Project
    (Jamaica, New York)

NEIGHBORHOOD PRESERVATION DEVELOPMENT

Through the Program Development Division of Neighborhood Reinvestment, the most promising of the Neighborhood Preservation Projects (NPPs) are moved from the NPP process, phase one, into a second phase -- trial replication. These programs are offered to a limited number of cities, where a systematic developmental process is worked out. A third phase involves replicating the programs in a large number of additional locations and providing technical assistance to ensure the success of the program.

Four programs are currently in phase two of development.

Home Ownership Promotion Program

The Home Ownership Promotion program (HOP) is interested in enlarging home ownership opportunities with existing neighborhood tenants and limited new entrants. Building on the cooperative NHS partnership of residents, lenders, city representatives, and staff, the HOP program systematically extends NHS services to a population of buyers in target areas where increased owner-occupancy will affect improvement and maintenance of the living environment.

Situations to be addressed on a block-by-block basis include: resident concern about absentee-owned properties remaining well below community standards; tenants potentially interested in purchasing their dwellings or structures nearby; vacant or stagnant residential structures requiring special resources and marketing efforts to encourage their sale and improvement; slack confidence; and, a soft real estate market lacking the adequate or sensitive participation of real estate brokerages which match buyers and sellers, creating a healthy volume of transactions.

The concept originated in the Baltimore NHS program where, in its first year, the program changed over 300 houses from absentee-ownership to owner-occupied, and helped 216 neighborhood tenants become homeowners. The program provides a strategy for other communities which have a high degree of community organization, numerous absentee landlords and a long-term tenant population.

Rehabilitation and Sale Program

The Rehabilitation and Sale program is a tool for NHS to use in the rehabilitation of vacant homes exerting a blighting influence on the neighborhood. Many communities find that severely blighted buildings weaken neighborhood revitalization efforts by hindering the function of the real estate market. These buildings devalue otherwise sound homes nearby and further depress general property values in the neighborhood.

The Rehab and Sale program assumes that vacant houses beyond the reach of housing code inspections and enforcement, scattered in basically sound neighborhoods, warrant intervention in the housing market by a not-for-profit entity to alleviate blight, return structures to tax rolls, support ongoing neighborhood preservation and ensure the viability of the community. The program is targeted for those properties too sound to raze, but too blighted to be privately rehabilitated. The strategy augments private and NHS rehabilitation activities in an effort to further stabilize and improve the neighborhood. The Rehabilitation and Sale program aims to recycle vacant structures for owner-occupancy by creating a working partnership of community residents, financial institutions, insurance companies and local government.

In Chicago, the first site for replication of the program, the NHS has purchased 18 buildings, 16 of which have been rehabilitated and sold, the other two are currently under construction.

Insurance Industry Full Partnership

In 1978, homeowners' insurance issues started to emerge as a serious concern. Local NHS programs began to report that the positive results of their programs were being affected by problems homeowners were having with insurance coverage. In some neighborhoods, policies were either not being renewed or were cancelled. Other homeowners were having problems finding adequate voluntary coverage for their older homes. Home financing problems were often followed, since homeowners insurance is almost always required before a loan can be made.

Neighborhood Reinvestment responded to the problem in 1979 by developing the Insurance Industry Full Partnership. The partnership evolved through discussions with the industry to learn how their programs operate and how they could cooperate with local NHS programs.

The resulting program involves the major insurers in the community who are willing to write insurance coverage for homeowners meeting normal underwriting criteria. A liaison is established between the NHS and each company to deal with whatever problems arise. As a by-product of the program, residents learn about the operation of the insurance industry and insurance company executives and agents learn about neighborhoods and their needs. Insurance industry representatives also become members of the NHS board and the companies participate in the financial support of the NHS program.

Statewide NHS Foundation

The California NHS Foundation was developed by California financial institutions who operate on a statewide basis and have branches in many cities. These institutions felt a statewide approach was needed to determine the number of NHS programs to be supported in the state and to select the cities in which NHS development would occur.

A foundation program was created in which each participating financial institution provides an agreed upon annual contribution to the foundation. The foundation then provides 75% of the operating budget of each NHS program in the state. The balance of the operating budget is raised by each NHS from local resources.

To date, 18 financial institutions are members of the California NHS Foundation and have contributed over $1 million to the support of California NHS programs. The NHS foundation concept has recently been replicated in New Jersey.

Apartment Improvement Program (AIP)

The Apartment Improvement Program joins the city, financial institutions, property owners, tenants, and neighborhood organizations in a partnership to deal with large apartment buildings which exert a blighting influence on their neighborhoods and bring them back into profitable operation, and at the same time provide a decent living environment for the tenants. A financial analysis of the current and projected operations of a building are studied through the use of the computerized Real Estate Investment Analysis model. This model aids in the development of an individually tailored improvement plan through which each building may benefit from such activities as tenant participation, contemporary tax assessment methods, and increased investment or restructured mortgages to improve the economic viability of buildings and to finance improvements. Developed in Yonkers, New York, the Apartment Improvement Program in its first 16 months was able to "turn around" 65 apartment buildings containing 3,500 units. We are replicating this promising program around the country and project that the Apartment Improvement Program activity provides a leverage of 65-to-one on Federal expenditures.

Urban Lender Program

The Urban Lender Program was created by Neighborhood Reinvestment Corporation at the request of the Federal Home Loan Bank Board to help loan underwriters and appraisers better understand the particular social, economic and governmental elements that affect urban housing in their community.

Utilizing the NHS partnership in Baltimore, Maryland, Neighborhood Reinvestment designed a course combining technical information and formal course work with field experiences. The objective was to provide participants with both specific tools for urban appraising and underwriting and a broad understanding of their city and its housing issues.

Two sessions of the program were completed in Baltimore during 1980, and plans are being developed for a similar course in Chicago during 1981.

NEIGHBORHOOD REINVESTMENT CORPORATION

ATTACHMENT E

Program Report - May 15, 1981

The following Neighborhood Reinvestment programs are in operation or in development in neighborhoods in the cities listed below:

CITY	NEIGHBORHOOD HOUSING SERVICES PROGRAMS Organized	In Development	In Expansion	NEIGHBORHOOD PRESERVATION PROJECTS	NEIGHBORHOOD PRESERVATION DEVELOPMENT PROGRAMS* Operational	In Development
Aberdeen, WA		1				
Albuquerque, NM	1**					
Allentown, PA	1					
Anchorage, AK		1				
Atlanta, GA	1		1	1		
Aurora, IL	1					
Baltimore, MD	2			5	HOP, UL	
Barberton, OH#	1					
Beaumont, TX		1				
Beloit, WI	1					
Birmingham, AL	1					
Boston, MA	2					
Bridgeport, CT	2				HOP, INS	
Bronx, NY		2			AIP (2)	
Brooklyn, NY		2		1		
Buffalo, NY	6					
Burton, MI		1				
Cattaraugus Co., NY		1				
Casper, WY		1				
Charleston, SC	1				HOP	
Charleston, WVA	1					

* Neighborhood Preservation Programs: HOP - Home Ownership Promotion Program; AIP - Apartment Improvement Program; R&S - Rehabilitation and Sale Program; SWF - State Wide NHS Foundation; INS - Insurance Full Partnership; OB - Owner-Built Housing Program.

** Number of Neighborhoods

# Neighborhood Conservation Service

CITY	NEIGHBORHOOD HOUSING SERVICES PROGRAMS			NEIGHBORHOOD PRESERVATION PROJECTS	NEIGHBORHOOD PRESERVATION DEVELOPMENT PROGRAMS*	
	Organized	In Development	In Expansion		Operational	In Development
Charlotte, NC	1					
Chattanooga, TN	1					
Chelsea, MA	1		1			
Cheyenne, WY	1					
Chicago, IL	6			5	INS	UL
Cincinnati, OH	3					
Clearwater, FL	1					
Cleveland, OH	2					HOP/INS
Colorado Springs, CO	1					R&S
Columbus, OH	1					
Dallas, TX	3				AIP	
Davenport, IA	1					
Denver, CO	1				HOP	
Des Moines, IA	1		1			
Detroit, MI	1					
Durham, NC	1					
East Orange, NJ					AIP	
East Providence, RI	1					
Elgin, IL	1					
El Paso, TX		1				
Emeryville, CA#	1					
Eugene, OR						
Evansville, IN#	1					
Flagstaff, AZ		1				
Fort Worth, TX	1					
Gainesville, FL		1				
Great Falls, MT	1					
Green Bay, WI		1				
Hartford, CT	1		1		AIP, INS	
Houston, TX		2				
Indianapolis, IN	1					
Inglewood, CA	1					
Ithaca, NY	1					

CITY	NEIGHBORHOOD HOUSING SERVICES PROGRAMS Organized	In Development	In Expansion	NEIGHBORHOOD PRESERVATION PROJECTS	NEIGHBORHOOD PRESERVATION DEVELOPMENT PROGRAMS* Operational	In Development
Jackson, MS	1					
Jacksonville, FL	1					
Jamaica (Queens), NY	1		1			R&S
Jersey City, NJ		1				
Kalamazoo, MI		1				
Kankakee, IL		1				
Kansas City, KS		1				
Kansas City, MO	2			1	INS	
Knoxville, TN	1					
Lafayette, LA		1				
La Habra, CA	1					
Lakeland, FL		1				
Lawrence, MA	1					
Little Rock, AK	1					
Los Angeles, CA				2	AIP	
Louisville, KY	1					
Macon, GA	1					
Menlo Park, CA	1					
Miami, FL	1					
Milwaukee, WI	2					
Minneapolis, MN	3				INS	
Mt. Vernon, NY					AIP	
Nashville, TN	2					
Newark, NJ	1				AIP	R&S
New Britain, CT	1					
New Haven, CT	1					
New Orleans, LA	1					
Niagara Falls, NY	1					
Norwalk, CT	1					
Oakland, CA	1			3	OB	
Oklahoma City, OK	1					
Omaha, NB		1				
Orlando, FL		1				

CITY	NEIGHBORHOOD HOUSING SERVICES PROGRAMS Organized	In Development	In Expansion	NEIGHBORHOOD PRESERVATION PROJECTS	NEIGHBORHOOD PRESERVATION DEVELOPMENT PROGRAMS* Operational	In Development
Pasadena, CA	1					
Peoria, IL	1					
Philadelphia, PA	2			2	HOP	
Phoenix, AZ	1		1			
Pittsburgh, PA	1				HOP	
Pontiac, MI	1					
Portland, OR				1		
Providen e, RI	1			1		
Pueblo, CO	1		1			
Queens, NY		1				
Quincy, IL		1				
Quincy, MA	1					
Racine, WI	1					
Reading, PA	1					HOP
Richmond, CA		1				
Richmond, VA		1				
Rochester, NY	1				HOP	
Saginaw, MI	1					
San Diego, CA		1				
St. Louis, MO	2		1			
St. Paul, MN	3				INS	
St. Petersburg, FL	1					
Salt Lake City, UT	1		1	1		
San Antonio, TX	1					
Santa Ana, CA	1			1		OB
San Bernandino, CA	1					
Savannah, GA	1					
Scranton, PA		1				
Shreveport, LA	1					
South Bend, IN	1					
South Portland, ME	1			1		
Springfield, MA	1					R&S
Springfield, OH	1					
Spring Valley, NY						AIP

CITY	NEIGHBORHOOD HOUSING SERVICES PROGRAMS			NEIGHBORHOOD PRESERVATION PROJECT	NEIGHBORHOOD PRESERVATION DEVELOPMENT PROGRAMS*	
	Organized	In Development	In Expansion		Operational	In Development
Stamford, CT		1				
Staten Island, NY		1				
Syracuse, NY	1					• HOP
Tacoma, WA	1					
Tampa, FL	1		1			
Toledo, OH	2					
Trenton, NJ	1					
Tucson, AZ	1					
Tulsa, OK	1					
Union County, NJ	4					
Utica, NY	1					
Vallejo, CA	1					
Vermont - Rural		2				
Washington, D.C.	2			1	AIP	
Waterbury, CT	1					
Waterloo, IA	1					
West Palm Beach, FL	1					
Wilmington, NC	1					
Winston-Salem, NC		1				
Yonkers, NY					AIP	
California NHS Foundation					SWF	
New Jersey NHS Foundation					SWF	
TOTAL	106 Cities 135 Neighborhoods	35	10	26	27	11

Biographical Sketch of William A. Whiteside

Mr. Whiteside is Executive Director of the Neighborhood Reinvestment Corporation.

He joined the Federal Home Loan Bank Board in 1970, and originated the programs which led to the creation of the Urban Reinvestment Task Force and the Neighborhood Reinvestment Corporation. He serves concurrently as Director of the Office of Neighborhood Reinvestment of the Federal Home Loan Banks. During the preceding 15 years, he was associated with the Coro Foundation, a non-profit educational institution which specializes in training for public and urban affairs. Mr. Whiteside was Vice President and Director of Southern California Programs of the Coro Foundation. During the 1960's, he obtained practical housing experience by syndicating, developing and managing apartment projects in Southern California.

His educational background includes: B.A. in Economics, Stanford University, 1952; internship in Public Affairs, Coro Foundation, San Francisco, 1953-54; M.A. in Economics, Stanford University, 1955.

His civic and professional activities have included: President, Metropolitan Los Angeles Chapter, American Society for Public Administration; Chairman, Los Angeles Leadership Development Project, National Urban League; Vice President, H-E-L-M (Higher Education for Los Angeles Minorities); Vice President, Hacienda Heights (California) Improvement Association.

Mr. Whiteside was born in Long Beach, California. He now resides in Kensington, Maryland.

Biographical Sketch of James A. McNeirney

Mr. McNeirney is Deputy Executive Director of the Neighborhood Reinvestment Corporation, and serves concurrently as the Deputy Director of the Office of Neighborhood Reinvestment of the Federal Home Loan Banks. Mr. McNeirney assisted in the development of the programs of the Urban Reinvestment Task Force, and before that, during the early 1970's the Federal Home Loan Bank Board's Center for Executive Development.

Mr. McNeirney joined the staff of the Federal Home Loan Bank Board in December 1970. Prior to joining the Bank Board Mr. McNeirney served as a newspaper reporter in Prince George's County, Maryland; Washington, D.C.; and Pittsburgh, Pennsylvania. He is a graduate of Duquesne University with a B.A. in Journalism.

Mr. McNeirney was born March 14, 1940 in Pittsburgh, Pennsylvania. He is married to the former Georgianne Geche, has five children, and resides in Laurel, Maryland.

Biographical Sketch of Donnie L. Bryant

Mr. Bryant was appointed to the staff of the Office of Neighborhood Reinvestment on November 1, 1977. He was elected an officer of the Neighborhood Reinvestment Corporation by its Board of Directors on December 21, 1978. He serves as Director, Finance and Administration, Secretary and Treasurer.

Prior to coming to the Office of Neighborhood Reinvestment, Mr. Bryant was a staff associate from 1973 to 1977 with Public Administration Service a non-profit international management consulting firm in Chicago, Illinois. He performed management studies and provided technical assistance to domestic and foreign government and quasi-government agencies and organizations.

From 1965 to 1971, Mr. Bryant worked as an Accountant and Senior Accountant for various departments and agencies of the State of Michigan and the city of Detroit.

From 1963 to 1965, Mr. Bryant was a junior accountant with the firm of Albert Lee & Company, CPA.

Mr. Bryant graduated from Wayne State University, Detroit, Michigan, 1970. He received a Masters in Public Policy Studies from the University of Michigan in 1972. Awarded a U.S. Housing and Urban Development/International City Management Association fellowship for graduate studies.

He is a member of the International City Management Association.

Mr. Bryant was born December 20, 1942 at Detroit, Michigan.

BIOGRAPHICAL SKETCH OF GEORGE KNIGHT

Mr. Knight is Director of Program Development of the Neighborhood Reinvestment Corporation. He is responsible for the establishment of Neighborhood Housing Services (NHS) non-profit corporations and the creation of educational and training processes for replicating successful Neighborhood Preservation Projects.

Prior to joining the Neighborhood Reinvestment Corporation in 1976, Mr. Knight was a principal with Booz, Allen and Hamilton, a general management consulting firm. He specialized in real estate finance and urban development. From 1970 to 1973, he was Associate Pastor of St. Pauls United Church of Christ in Chicago, Illinois. From 1968 to 1970, he served as Executive Director of the Bickerdike Redevelopment Corporation, a non-profit, neighborhood-based construction firm in Chicago, Illinois. During 1967, he served as the Administrative Assistant to the Director of the Chicago Dwellings Association, a public housing development and rehabilitation corporation in Chicago, Illinois.

Mr. Knight graduated from Lafayette College, Easton, Pennsylvania, in 1965. He received a M.A. with honors from the University of Chicago and a Master of Divinity with honors from McCormick Seminary in 1969.

Mr. Knight was born June 10, 1943 at Terre Haute, Indiana. He and his wife, the former Nancy Nichols of Rutherford, New Jersey, have two children.

BIOGRAPHICAL SKETCH OF KENNETH J. KNOX

Ken Knox is Director of the Division of Support, Training and Technical Services of the Neighborhood Reinvestment Corporation, Washington, D.C. His division is responsible for providing assistance to operational Neighborhood Housing Services programs in over 100 cities with technical information and advice, training, and organizational support, often on-site.

Prior to joining the Neighborhood Reinvestment Corporation in 1974, Mr. Knox was employed by Georgia Federal Savings & Loan Association in Atlanta as a manager. From 1965 to 1973 he served as Executive Director of the Boys' Club Association of Indianapolis, a five-neighborhood youth-guidance agency. He was a manager of branch operations for the same organization from 1960 to 1965. Mr. Knox has taught at Indiana-Purdue University at Indianapolis and DeKalb Community College in Atlanta and was licensed in real estate in Indiana and Georgia.

Mr. Knox graduated from Indiana University (Bloomington) with a Master of Arts in sociology in 1969. He received a BA with honors from Indiana Central University in 1960 and has studied at Atlanta Law School and New York University.

Ken Knox was born May 8, 1938 in Indianapolis, Indiana. He and his wife, Dorothy, and their four teenage children live in Stone Mountain, Georgia.

Biographical Sketch of Meg S. Armstrong

Ms. Armstrong is responsible for managing the neighborhood preservation division in seeking out innovative strategies in neighborhoods which can be replicated throughout the country. Also included is the development of major programs in commercial revitalization and urban lender training.

Prior to joining Neighborhood Reinvestment Corporation in 1978, Ms. Armstrong was Director of the President's Reorganization Project on Local Economic and Community Development in the Office of Management and Budget. From 1976 to 1977, Ms. Armstrong worked as a management consultant in Denver, Colorado, specializing in management of programs in economic development, energy development, employment and social services. At this time, she also held an appointment as Associate Fellow of Urban and Regional Development at the Academy for Contemporary Problems. From 1975 to 1976, Ms. Armstrong served as Director of Federal-State Relations for the Governor's Office of Colorado.

From 1973 to 1975, Ms. Armstrong was Senior Research Associate for Olympus Research Corporation in Salt Lake City, Utah. From 1971-1973, she worked as Federal-State Coordinator for the Utah State Planning Office, in Salt Lake City.

From 1965-1969, Ms. Armstrong worked as a registered stockbroker with Kidder Peabody & Co., and W.E. Hutton, in San Francisco, California.

Ms. Armstrong graduated from Rutgers University in 1964, receiving an A.B. in History-Political Science. She was a registered stockbroker with the New York Stock Exchange and the National Association of Securities Dealers.

Biographical Sketch of Carol J. McCabe

Ms. McCabe has been General Counsel of the Neighborhood Reinvestment Corporation since September, 1979. Prior to that, she was Assistant General Counsel of the Corporation for Public Broadcasting (CPB), a nonprofit, federally funded corporation. She served earlier as a Staff Attorney at CPB, from April 1976 until appointment as Deputy General Counsel of National Public Radio, Inc., in April 1977.

Her earlier experience includes legal writing, editing and research for the U. S. Commission on Civil Rights, and news writing and reportage for the Voice of America, the radio branch of the U. S. Information Agency.

She is a graduate of the Georgetown University Law Center and the City University of New York.

Mr. WHITESIDE. Thank you very much, Mr. Chairman. I want to tell you what a pleasure it is to appear before you in your role as chairman of this committee, bearing in mind the history of your help in the creation of our Corporation.

I take your comments on the budget justification seriously. We have discussed our budget justification with your staff. We understand what you require and you can be assured you will receive it next year.

Senator GARN. Thank you.

NHS AS A LASTING INSTITUTION

Mr. WHITESIDE. I will just highlight a few points in our statement—affordable housing in the current economic climate, NHS, fundraising, and the travel request of the Neighborhood Reinvestment Corporation.

One of the things we are discovering, as we have enough time behind us now that we can see some programs that have completed work in their first neighborhood, is that NHS is more than a project for one neighborhood. The early programs have been encouraged to expand to additional neighborhoods, 20 of the first 25 NHS's, have expanded. NHS is seen by the local community, by the local government, and community residents as an entity that can continue to be of service in the neighborhood in that community.

PROGRAMMATIC EXPANSION

We are finding in addition to that geographical expansion that the NHS's are expanding programmatically. They are adding components to their program to address problems that the basic model didn't address. The NHS in your home city of Salt Lake City, for example, has done outstanding work in developing an energy conservation approach, which we intend to make a model for the rest of the country, as a component needed in other communities.

LEVERAGE IMPACT OF NHS

The question has been asked, "When will NHS be finished?" Part of the answer, of course, is that as an institution, it may not be finished for a long time as it moves to other neighborhoods. But we have had enough experience to indicate that an average NHS in an average sized neighborhood with average program difficulties can be finished in about 5½ years. During that 5½ years, they can produce reinvestment in the neighborhood in the amount of about $12 million. It is exciting to us to have the statistical base now to come up with figures like this because it enables us to quantify the impact of our work. Our total cost of developing a local NHS program, providing support and training services to it and the secondary market over a 5½-year period is about $300,000, which means that we are experiencing a 39-to-1 cost/benefit ratio in terms of our services. For every dollar of money we spend from all sources, we are producing $39 in reinvestment impact in each neighborhood in which we work.

INCREASED RENTAL RESOURCES

We are involved in two very important pilot projects I want to touch on. One, which the Congress encouraged last year in the Housing and Community Development Act of 1980, is a demonstration of the mutual housing association concept for the first time in this country in an organized way. The concept comes to us from Europe. It has been in existence since about the turn of the century. It has helped house millions of people. And, frankly, I have been aware of this for years and was glad we didn't need it in this country. It seemed to me to be a model which was very effective in dealing with economies that had far more severe problems than ours. We have now come to the conclusion we may be facing some of those same problems ourselves as homeownership opportunities are reduced because of higher costs and as other rental resources are eroded as a result of deterioration, as a result of conversion to condominiums and cooperatives, and, finally, as new apartments are not being built because of uncertainty in the mind of entrepreneurs about their ability to produce housing for families below the median income. The higher income families will probably have housing produced for them, but for the median and below we see a real crisis. We are seeing this need in NHS neighborhoods, and we see an opportunity to demonstrate this concept around the NHS partnership.

The concept involves a tenure which is between homeownership and rental. It amounts to occupants of housing participating in the financing of it through a capitalization fee, participating in the management through participation in the board of directors of an association, and paying a monthly occupancy fee for occupying it. It is different from a co-op, as they have typically been seen in this country, in that the association can own a number of buildings, and the association would retain for its own use any equity built up to be used as further capital formation for the association.

In order to work, it has to be operated competently and it has to be operated in the public interest. It also needs to be monitored and assisted. It is interesting that in Europe they have organizations providing the same kind of technical assistance, training, and monitoring that we provide for the NHS programs. This encouraged us that we might be able to demonstrate the mutual housing association concept in this country, utilizing our total system for supporting NHS programs.

We are currently in development of this model in Baltimore. We anticipate obtaining the funding for it primarily from private sources—from foundations and insurance companies—and will be making a small investment in it in terms of staff time and an initial grant for operating purposes. My hope is that after a period of demonstration we can bring to the administration and to the Congress some evidence on how this form of production and operation of housing fits the U.S. institution and whether or not it can be a resource for the country on a broader basis. We were directed by the act last year to produce an initial report by September 30 of this year. Obviously we will be in the beginning phases of the demonstration at that time and it will be an interim report. We will be delighted to share that report with this committee, as well as the authorizing committee.

AFFORDABLE HOUSING

I would like to mention another new program that we have discovered that we think is very significant. It was developed by the Oakland, Calif., NHS. They call it owner built. It is a group of owners, under supervision of the NHS, literally building their own homes. Fourteen families have just completed their homes in Oakland, Calif. They are now assuming conventional loans of $45,000 for the basic nonlabor costs of each home, have invested about 40 hours per week per family for a year of their own effort, and are this week occupying homes that on the Oakland real estate market would be valued at about $85,000. We see this as one of the most exciting affordable housing ideas to come along and are currently replicating it on a demonstration basis in Santa Ana, Calif. We are hopeful this can become a major asset in NHS neighborhoods throughout the country where they have vacant lots and are interested in providing this kind of housing.

IMPACT OF CURRENT ECONOMIC CLIMATE

In relation to the current economic scene, things are tough all over, obviously. They are also for NHS. Costs are escalating. Rehab is costing far more than it has in the past. This puts a strain on revolving loan funds. A given amount of money will produce a smaller number of loans. It, in turn, puts a strain on the secondary market which purchases loans from those revolving loan funds, and it needs additional funds. The escalation of costs has affected the operating budgets of local NHS's and requires them to find additional sources of local private funds.

Some homeowners are postponing work, those who would be receiving loans from banks and savings and loans. However, the clients of the NHS, those who need emergency assistance of various kinds particularly, are providing a greater than ever work load at this time for NHS. Some clients who would have been marginally bankable at lower interest rates are now clients of the NHS, and that adds to the pressure on the revolving loan fund.

The NHS's will have to compete more strongly for local Federal resources after the current budget is enacted. The community development block grants will be covering a broader range of activities. There will be more groups competing for those resources. So the NHS's which have relied on them for revolving loan fund contributions will have to be on their mettle to get their share.

The present problems that the thrift industry is experiencing has us very concerned about the 700 savings and loans that are now supporting the operating budgets of the NHS programs with voluntary contributions. We are concerned about their ability to continue at the present level of support through this year and, perhaps, next. In order to address this, we are assisting the local NHS program in getting started on a significant broadening of their base for local private contribution support. We have provided some funding to Neighborhood Housing Services of America to take the lead in this. They have engaged the Fund Raising Counsel, a very outstanding firm, to provide technical advice. We are proceeding on three tracks of fund raising assistance for the NHS.

On the first track, Neighborhood Housing Services of America is providing training to its own staff and to our staff in fundraising techniques so that our staff can train newly developed and existing NHS's on how to broaden the base of their support. On the second track, because NHS differs from institutions that are normally raising funds on a broad basis, we are doing some pilot testing. Counsel is being provided to the New York City NHS fundraising activity, which is planning to raise about one-third of its operating budget for seven NHS neighborhoods from the broad corporate sector. We are also providing assistance to the Minneapolis-St. Paul Twin Cities NHS, as they are trying to raise about one-quarter of the budget for their expanded program from corporate resources. Finally, we will be providing assistance in Los Angeles, where they are developing a multineighborhood NHS from scratch, which is certainly going to need a broad base of corporate support.

Out of this experience the Fund Raising Counsel will be preparing manuals and more specific advice to all the NHS's on how they can broaden and continue the private nature of their support.

The third track is consultation and feasibility testing going on with all the NHS's on the possibility of a national fundraising campaign to raise $20 to $30 million which would be used to deal with the erosion of the revolving loan fund, to recapitalize the secondary market, to provide for special projects for NHS in terms of added components to serve for the neighborhoods. We expect by the fall we will have completed our consultation with the local programs, have an agreed upon set of goals and distribution formulae, and be able to move on this fundraising campaign.

I would like to clarify this because after a previous hearing there were erroneous press reports—this is not for our budget. This fundraising will be for the budgets of the local, private NHS programs.

In conclusion, I would like to touch on one aspect of the appropriation request, and that is travel, which I know looms large as you compare it with other entities that come before you, and we have a sizable increase that we are requesting from 1981 to 1982.

To put that in perspective, I would like to mention that we have 118 staff members who travel on a regular basis. They are in the field 3 or 4 days a week. They are more like bank examiners than analysts in a typical Federal department. They have to be out there where the NHS is in order to provide service to it, either developmental services or support services. We currently provide developmental services to a total of 45 programs, 35 new programs being developed and 10 NHS's expanding to additional neighborhoods. We are providing technical assistance to 125 NHS programs and we will be monitoring 75 percent of those programs in terms of their performance. All of this has to happen in the field. About half of the increase we are requesting results from an increased workload—the increased workloads result from last year's success in developing new programs—and about half of the increase results from projected continued escalation of travel costs.

With that, I will close my statement and welcome your questions.

Senator GARN. Thank you.

COMMUNITY DEVELOPMENT SERVICES' NEWSLETTER

On May 7, I received a copy of a letter sent by a law firm representing the Corporation, to the Community Development Services, Inc., a publishing firm which reports on housing development issues. It is my understanding this letter was sent as a result of your concern over Community Development Services' recent newsletter entitled, "Neighborhood Reinvestment Report." In the letter, the law firm requested that the publisher cease and desist from using this title because continued use would cause irreparable harm to the Corporation and its activities. It appears you feel only the Corporation should be permitted to use the phrase "neighborhood reinvestment." I am concerned about these actions because there are a lot of examples where private concerns are using titles that are similar to an agency and I have seen no action, or am I aware of any, where these publications have caused irreparable harm to the agencies. For example, Defense Daily and Aerospace Daily are not originated in DOD or NASA. I would appreciate it if you would comment on why it would be so harmful for Community Development Services to continue to use the title, "Neighborhood Reinvestment" when there are many other governmental agencies in similar situations that don't feel it causes them any problem and haven't tried to prevent the private sector from using a similar name.

Mr. WHITESIDE. Thank you, Mr. Chairman, for your comments. We are studying this matter carefully. We feel that it is important to protect our name. We have worked hard to build quality and confidence into it. We are concerned about confusion as to whether we or another entity have made a statement. I think there is a range, though, of degrees of concern. I would be very troubled if I saw a truck delivering aluminum siding in a neighborhood that said "Neighborhood Reinvestment Corporation" on the side.

Senator GARN. Well, I would agree, if the company is deliberately deceptive. For instance, if a truck from Defense Digest delivers something and says it is from the Department of Defense, I think there is the distinction.

Mr. WHITESIDE. Thank you, I appreciate your comments on that. We will be in further discussion with the publisher and I think we can bring it to a satisfactory conclusion.

Senator GARN. From what I know about this issue, I don't share your concern. So I would appreciate it if you would let me know how this situation progresses.

Mr. WHITESIDE. Certainly.

Senator GARN. Once again, I want to reiterate that the criticisms I am making are suggestions coming from a friend. I certainly have fought the battles in Utah in convincing people that a NHS was not some sort of Communist conspiracy which would take over the mayor and city council.

Just a side note. If you are not aware, I deliberately said "mayor" and "city council" because that is a change I worked for. That situation never occurred while I was mayor, but happened after I left. Salt Lake City finally has a city council, elected from the geographical areas around the city rather than that monster city commission that I presided over. This type of government in the city has only been in existence for 2 years.

FUTURE NHS DEVELOPMENT

The major effort of the Corporation is to assist local communities in the development of local neighborhood housing services—NHS—programs. On page 2 of your budget justification you indicate that in fiscal year 1982, the Corporation intends to initiate 24 new NHS programs and expand existing programs. This action will bring NHS programs to a total of approximately 133 cities, or 166 neighborhoods. In what cities do you intend to develop the new NHS programs?

Mr. WHITESIDE. That would be impossible to say at this time. We respond to requests. We conduct field assessments on the basis of the request. I would say that, for the most part, the programs we will be developing in 1982 have not been requested yet. We are still working on assessments for the balance of 1981.

SUPPORT SERVICES

Senator GARN. Without regard to particular cities, what additional services do you plan to provide to existing programs?

Mr. WHITESIDE. Let me ask Ken Knox, our Director of Support, Training, and Technical Assistance, to comment on the kinds of support that will be provided.

Mr. KNOX. Basically, there are four areas that we will be concentrating on within the next year. The first is fundraising, which Bill has already mentioned, because of the need for greater sophistication on the part of NHS programs now to approach the broader corporate community. So we will be spending a lot of time in fundraising.

A second is providing better services in accounting, bookkeeping, to enhance the management practices of the NHS, and so we have trained our own staff and have capability now of providing training on a more systematic basis.

The third is energy conservation. Energy conservation is an important area which we are beginning to concentrate on. We find not only is it an important tool for a homeowner to save energy costs, but also is a wonderful marketing tool. There are people who will let a staff member into their house to help them save energy more readily than for code enforcement. So energy conservation is a marketing tool to introduce homeowners to the idea of fixing up their homes.

Senator GARN. It gets easier every time the utility rates go up.

Mr. KNOX. Definitely. There is a built-in incentive.

Senator GARN. Would you send somebody out to my house? [Laughter.]

Mr. KNOX. Put in your request.

The fourth is what we are calling turning points. A number of communities which have been performing rehab on a systematic basis still seem to be making slow progress in demonstrating a visible improvement. We now have the capability of working with neighborhood residents to see what they want their community to be like and provide marketing strategy and specific housing strategy to identify those turning points which will make a difference for a community to be revived.

Then, finally, particular emphasis on better training for rehabilitation specialists, the construction specialists who work in the local programs, including extending the length of internships.

Senator GARN. Bill, how would you anticipate that the proposed changes by the administration in both housing and community development programs in fiscal year 1982 will impact on the activities of the Corporation?

Mr. WHITESIDE. They won't impact directly on the Corporation at all. They will impact on the local NHS's. As I mentioned in my opening remarks, the community development block grant funds are going to be tighter. The programs which have relied on the public side of the CETA program will no longer have those staff members available. The few programs that have utilized 312 are unlikely to have that assistance. So a general tightening of local resources is what we expect at the NHS level rather than at our level.

Senator GARN. You are going to get off easy today because I have a meeting which I must go to very shortly. I do have some additional questions which I would like to submit to you for response in the record.

I think life was much less hectic when I was a freshmen. At that time, I had the opportunity to tour Baltimore. Now I hardly have a chance to get to my office. I visit it once or twice a day as I pass from one part of the Capitol to another. Life was certainly a lot simpler. Was that in 1975?

Mr. WHITESIDE. I am glad we had the opportunity to get you out then when it was possible to do so.

Senator GARN. Today I can't string that many hours together all at one time.

Do you have any additional comments you would like to make at this time?

Mr. WHITESIDE. Thank you very much for the opportunity to appear.

Senator GARN. Thank you very much. The committee will submit some additional questions to you for the record.

[The following questions were not asked at the hearing but were submitted to the Corporation for response subsequent to the hearing.]

QUESTIONS SUBMITTED BY SENATOR GARN

THRIFT INDUSTRY

Question: It is my understanding that financial institutions contribute to the operating budgets of Neighborhood Housing Services (NHS) programs. In your prepared remarks you state that, "the current difficult economic conditions for thrift industries are affecting the ability of NHS programs to raise necessary additional operating budgets, and if conditions worsen, the adequacy of current operating budgets could be affected". During the last year, have many financial institutions either withdrawn or decreased their commitments to NHSs?

Answer: During the past year, the private sector, including the thrift industry, contributed approximately $10 million in support of NHS operations throughout the country. In recent months, economic conditions have made it increasingly difficult for thrift institutions to maintain the same level of financial support, and of 660 Savings and Loans supporting local NHS programs, 13 have dropped out and 17 have been forced to reduce their contributions. On the whole, however, the savings and loan industry has maintained its high level of personal leadership, technical lending expertise and active participation on boards and committees.

Question: Has the decrease in support from financial institutions prevented or delayed new NHS programs from starting?

Answer: On several occasions this year, we have conducted thorough assessments in cities which have resulted in a mutual agreement to postpone NHS efforts because not all sectors felt the economic conditions were right. In light of the economic climate, Neighborhood Reinvestment is considering reducing the number of new NHS developments initiated this year, and redirecting that effort to the strengthening of existing NHS programs.

Question: Have your efforts to increase private and corporate sector funding of NHSs been successful?

Answer: Our fundraising assistance to help NHS programs broaden their base of operating funds is just getting under way, so it would be premature to assess the success of the effort. We certainly are encouraged by early responses, and feel that this is the most productive course we can take.

Question: What additional efforts do you intend to undertake in FY 82 in order to find alternate sources of funding for NHSs?

Answer: A major fundraising effort in the corporate sector will be our approach to finding alternate sources of NHS funding in FY 1982.

MUTUAL HOUSING ASSOCIATIONS

Question: During the next year, you intend to develop two Mutual Housing Association Demonstration Projects. You indicate that the Corporation hopes to adopt the key elements of the Mutual Housing Associations in West Germany, which have successfully produced 4.4 million dwellings for over 10 million people. How many people do you estimate will be served by these projects?

Answer: The demonstration projects will only include a few units -- 75 in the first demonstration in Baltimore and the same order of magnitude in the next demonstration. The limiting factors in producing housing for lower income people are capitalization and financing. While Neighborhood Reinvestment's resources are able to cover development costs and initial operating grants, we are seeking capitalization and financing resources from philanthropic sources for the demonstration projects.

Question: Which cities will be served by these demonstration projects?

Answer: The first demonstration is being undertaken in Baltimore, Maryland, in the Govans neighborhood -- one of the neighborhoods served by the Baltimore Neighborhood Housing Service.

Question: When do you estimate that these Associations will be fully operational?

Answer: We anticipate that the Baltimore Mutual Housing Association will be fully operational before the end of the calendar year. The second, perhaps a year later.

Question: What is the potential capability of these Mutual Housing Associations increasing the availability of affordable housing in this country?

Answer: Mutual Housing Associations have the potential of growing to become a significant factor in housing production for the below-median sector of the population. In order to achieve this, a network of publicly accountable, competent non-profit organizations, operating in the public interest, needs to be developed. These organizations must be given assistance and oversight; and capital and financing must be made available to the Associations which will enable them to operate economically. Our demonstration is designed to show how all of these might be accomplished.

Question: In September, you will be providing the Banking Committee with a report on the preliminary findings of these demonstration projects. I would appreciate your providing a copy of this report to the Subcommittee as well.

Answer: We will be pleased to furnish this Subcommittee with a copy of our September preliminary findings.

OFFICE OF GENERAL COUNSEL

Question: In FY 80, you created an Office of General Counsel to provide legal services, thereby reducing outside costs. However, in your FY 82 budget justification you indicate that the Corporation has continued to use outside legal counsel. Why is it necessary to use outside counsel when you have an in-house attorney?

Answer: Outside counsel is consulted by the General Counsel on legal matters which require representation outside the District of Columbia, or which, in her professional judgment, are most prudently or efficiently handled in this manner, including matters likely to require specialized, rather than general, knowledge, training and experience, such as person and tax law, insurance law, and litigation.

Question: How much did you spend on outside attornies in FY 81?

Answer: FY 1981 expenditures, as of May 29, 1981, total $15,000.

Question: How much do you estimate you will spend in FY 82?

Answer: While legal costs are difficult to predict, we have budgeted $39,000 in this line item for FY 82, which is approximately the same as was budgeted in FY 81.

TRAVEL

Question: You are requesting in FY 82, $2,990,000 for travel. This is an increase of $907,000 or 43.5% over your current FY 1981 level. What is the justification in requesting this large increase for travel? Please provide for the record an analysis of trips taken by individuals in the Corporation during FY 81 as well as the purpose and costs associated with each trip.

Current Travel

Answer: There are 118 staff of Neighborhood Reinvestment who travel frequently for program-related purposes. This travel is for the purpose of project development and for monitoring and support of ongoing NHS programs in the field. On the average, these staff make one trip per week and are in travel status 3 days per week, 40 weeks per year. This is a total of 4,720 trips and 14,160 person-days in travel status. The average cost of these trips is $384 of which $122 is hotels and meals and $262 is transportation (mostly airfare) on the average.

Additional funds (about $150,000 per year) pay the travel cost of resource persons (primarily staff of existing NHSs) to attend planning sessions for training workshops and other NHS support activities. Finally, about $120,000 (5.8% of the travel budget) is allocated for staff travel for the purpose of general staff meetings and staff training in areas which are directly job-related.

FY 82 Increase in Travel Expenses

Question: Attached are three tables which support Neighborhood Reinvestment's request for a $907,000 increase in the amount appropriated for travel expenses. The request is based on two major factors: the impact of inflation on our travel budget and programmatic expansion in several activity areas.

Table 1 shows the consumer price indices related to several major categories of travel expenditure for the period January 1980 to January 1981. This peroid has seen rapid inflation in many categories of travel related expense, particularly airfares, which increased by over 32%.

Table 2 is a comparison of Neighborhood Reinvestment travel dollar in Fiscal 1981 with the amount that would be needed to buy an equivalent amount of travel services in Fiscal 1982, assuming these trends continue. As can be seen in FY 1982, it is likely to require an expenditure of $1.23 to buy a single dollar's worth of FY 1981 travel services.

Table 3 shows Neighborhood Reinvestment's actual travel expenses in Fiscal 1980, Fiscal 1981 actual expenses for the first half of the year (unaudited), a projection of travel expenses for the remainder of Fiscal 1981, and the Fiscal 1982 request by major activity. The total amounts budgeted for Fiscal 1981 are then compared with the Fiscal 1982 request both in terms of current dollars and deflated or "real" dollars.

TABLE 1

Consumer Price Indices
for
Travel Related Items

	Jan. 1980 Index	Jan. 1981 Index	% Change
Airfares	251.1	331.9	32.2%
Automobile rental	109.1	116.2	6.5%
Lodging while out-of-town	267.0	291.5	9.2%
Food away from home	256.1	280.9	9.7%
General	233.2	260.5	11.7%

TABLE 2

Travel Expenses - Per Dollar
1981 - 1982 Comparsion

Category	1981 Expense Per Dollar	Applicable 1981 Inflation*	1982 Equivalent Expense
Airfare	$ .60	32.2%	$ .79
Car Rental	.09	6.5%	.10
Hotels	.11	9.2%	.12
Meals	.10	9.7%	.11
Miscellaneous	.10	11.7%	.11
Total	$1.00	23.0%	$1.23

*Based on Consumer Price Index for airfare, car rental, lodging while out of town, meals away from home and general inflation, respectively.

Table 3

Neighborhood Reinvestment Corporation

Travel Expenses
(amounts in thousands)

Activity	FY 1980 Actual (1)	FY 1981 Spent through 3/31* (2)	FY 1981 Projected 4/1-8/30 (3)	FY 1981 Total (4)=(2)+(3)	FY 1982 Request (5)	FY 1981-1982 Current Dollar Increase (6)=(5)-(4)	FY 1981-1982 Current Dollar Increase (7)=(6)/(4)	FY 1981-1982 Real Dollar Increase (8)*	FY 1981-1982 Real Dollar Increase (9)=(8)/(4)
Neighborhood Preservation Projects	$ 72	$ 51	$ 137	$ 188	$ 268	$ 80	42.6%	$ 30	15.9%
Neighborhood Preservation Development	125	70	197	267	317	50	18.7%	(9)	-3.7%
Neighborhood Housing Services Development	677	443	424	867	1,256	389	44.8%	154	17.8%
Neighborhood Program Support, Training and Technical Assistance	501	311	166	477	788	311	65.2%	163	34.3%
Administration and Executive Services	118	103	181	284	361	77	27.1%	9	3.3%
TOTAL	$1,493	$978	$1,105	$2,083	$2,990	$907	43.5%	$347	16.6%

*Column 8 equals Column 5 adjusted for 23% inflation minus Column 4.

JUSTIFICATION BY FUNCTIONAL AREA

Neighborhood Preservation Projects

The 15.9% real increase requested reflects increased activity in the development and support of Commercial Revitalization and Energy Impact projects. Since it is not practical at this time to hire at the regional level the specialized staff needed to support these projects, support is provided at the national level. This means a considerable increase in travel for each project added to the number under development.

Neighborhood Preservation Development

The 3.7% real decrease in the amount requested for this activity reflects the fact that at the time the budget was prepared it seemed likely that the FY 1981 projected expenditure for travel in this activity had been overestimated. The expected reduction is due in part to the regionalization of the Apartment Improvement Program which has reduced travel requirements of this program considerably. The FY 1981 reallocation to reduce travel budgeted for Neighborhood Preservation Development will take place at the end of May and is not reflected in this table.

Neighborhood Housing Services Development

The 17.8% real increase in NHS Development travel request reflects the fact that NHS development in Fiscal 1982 is expected to take place in smaller cities and rural areas. Although NHS development has been organized into 12 Districts, the district offices may be located some distance from where the development is taking place, requiring considerable staff travel to and from the development sites on a frequent basis.

Neighborhood Program Support, Training and Technical Assistance

The 34.3% real increase requested for this activity is based on the addition of 35 new NHS programs to the inventory of 105 that existed at the start of Fiscal 1981. This is an increase of approximately 33% for programs requiring support services above those requiring support in Fiscal 1981. Additionally, new support components are being added including enhanced technical assistance to NHS programs in accounting and fundraising. Finally, this activity is currently under-budgeted for travel in Fiscal 1981 and will have its travel budget increased in a reallocation to take place at the end of May. The actual FY 81-82 increase for travel in this activity will be less than the 34% real increase shown.

Administration and Executive Services

The 3.3% real increase for travel in this activity is based on overall organizational growth. Travel in this activity is needed to provide executive leadership to the organization, to provide for administrative support offices, for staff training and development, and for liaison with private industry and local government in the interest of gaining support for neighborhood revitalization programs.

EMPLOYEES

Question: In FY 81, you requested $5,102,000 for the salaries and expenses of 191 permanent employees and 33 temporary full-time personnel. Your FY 82 budget request is for $5,782,000 for the salaries and expenses of 216 permanent employees and 33 temporary personnel. Why is it necessary to hire 25 additional permanent employees in FY 82?

Answer: The twenty-five additional permanent employees represent an increase over a two-year period (FY 1980 - 191 employees, FY 1981 - 201 employees, FY 1982 - 216 employees). The positions were established in several administrative and program areas as a result of growth and increased programmatic output. The single largest increase is Neighborhood Support, Training and Technical Assistance, representing a necessary increase in capacity to provide technical services to the growing number of NHS programs. The second largest increase -- in program development -- was required in order to replicate construction-related NHS components, such as Rehabilitation and Sale and Owner-Built.

Question: Will these additional employees be located in Washington or in the field offices?

Answer: Department, primary function, and office locations are shown below:

	Washington		Field
	Main Office Activity	Field Activity	
Program Development			4
Neighborhood Preservation Projects			1
Neighborhood Support, Training and Technical Assistance			7
Executive Services	3	2	
Communications	3		
Staff Development	2		
General Counsel	1		
Finance and Administration	2		
TOTAL	11	2	12

ENERGY CONSERVATION

Question: During FY 81, the Corporation worked toward implementing an energy conservation plan for Neighborhood Housing Services (NHS) across the country. It is my understanding that you have received a grant from the Ford Foundation to develop five pilot energy conservation projects. What was the amount of the Ford grant?

Answer: The amount of the Ford Foundation grant is $230,000.

Question: Please describe the activities which will be undertaken in each of these five projects.

Answer: Activities undertaken include an array of objectives designed to further the capacity of NHS to facilitate weatherization for residents. Four of the five projects are in neighborhoods. Each of these projects seeks to (a) reduce the relative cost of fuel by conserving energy, (b) leverage local, private and public resources with special focus on the utility industry, and (c) blend weatherization into existing neighborhood services. The underlying assumption is that the most attractive cost/benefit is likely to come from activities that are low in technology and low in cost.

1. Comprehensive residential energy conservation project.

This project is targeted to homeowners in a typical NHS; recognizes marketing as the crucial step in reaching residents; and builds on the basic core services of an NHS in order to market, audit, counsel, finance, rehab and perform follow-up to check on results. This model draws from the successful experience of several NHSs who pioneered the strategy last year through Neighborhood Preservation Projects grants in Salt Lake City, Utah NHS; Providence, R.I. NHS; and South Portland, Maine NHS. A suitable NHS will be selected to do this project. Funding is $40,000.

2. Small apartment building energy conservation project.

This project will develop a model approach for integrating weatherization into both the rehabilitation and management of two- to six-flat buildings. Project staff will work with property owners, managers, and renters. The Chelsea (Mass.) NHS will do this project. Funding is $40,000.

3. Resident-centered energy conservation project.

This project will undertake a comprehensive weatherization project with focus on training volunteer residents, predominantly senior citizens, as energy auditors. Volunteer residents will help market the program, do audits, and informally assist homeowners as they complete weatherization rehab. This approach is designed to have a more personal, less technical and essentially simpler approach to weatherization than many other activities. It also capitalizes on the availability and neighborhood interest of senior citizens. The Denver NHS will do this project. Funding is $30,000.

4. Large apartment building energy conservation project.

This project will develop a model for integrating weatherization into the current successful Apartment Improvement Program (AIP) process to refinance and rehabilitate large apartment buildings. The project will also revise the existing computer program used for financial analysis to include the cost aspects of weatherization activities. One of the AIP projects in New York City will be selected to do this project. Funding is $40,000.

5. The fifth project is in the Neighborhood Reinvestment Corporation's Training Department and will design and test a model curriculum for use by local neighborhood delivery organizations. The initial target group will draw from NHS staff in 135 neighborhoods. Primary trainees will be NHS executive directors and NHS rehab specialists. Additional training activities may be offered to NHS Boards of Directors and NHS residents. Additional fee-for-service opportunities may be offered to other neighborhood organizations. This project will also design a system for regular NHS dissemination of weatherization information in order to sort out, boil down and distribute some of the extensive material now available but often unused.

Question: Do you intend to work with other Federal agencies in developing a sound energy conservation plan?

Answer: It is not our intention to do so at this time. However, we encourage NHSs to seek federal resources at the local level that would enhance their activity.

RURAL/SMALL CITY NHS

Question: I understand that you are attempting to develop a rural model of your current urban Neighborhood Housing Services (NHS) as well as bring the NHS programs to small cities. On Page 7 of your prepared statement, however, you indicate that in both rural areas and small cities, the ability to support the operating costs of the NHS is limited due to the available resources of financial institutions located in these areas, access to funds from HUD's Community Development Block Grant (CDBG) program, and the ability of other private resources to make contributions to the NHS.

Nevertheless you are attempting to service these areas through innovative measures. What steps did you take to develop NHSs in these areas during FY 81?

Answer: During FY 81, Neighborhood Reinvestment expects to complete the development of one rural NHS model in Vermont, and approximately 7 NHS developments in cities of less than 50,000 in population (Aberdeen, Wash.; Casper, Wy.; Flagstaff, Ariz.; Kankakee, Ill.; Lafayette, Ind.; Lakeland, Fla.; and Quincy, Ill.). Another rural development is underway in Cattaraugus County, New York.

Question: What measures will you undertake in FY 82?

Answer: In rural areas, it has been our experience that private and public resources are not sufficient to adequately support an organization capable of dealing with broad housing services needs. We estimate that over a five-year period, approximately $1 million is required to implement and support an NHS program in a rural area in addition to Neighborhood Reinvestment's investment of approximately $300,000 during this period for development, capitalizing the Revolving Loan Fund, support, training, technical assistance and provision of a secondary market. At this point, we are not planning to begin more than one additional rural program in FY 1982, if any.

In cities of around or below 50,000 in population, predominately privately supported operating budgets are not always possible, even though the housing services are great. Securing adequate resources to support the operations of NHSs in small cities is indeed a challenge; however, we are learning ways to meet this challenge through broadening the base of financial support, increasing the fundraising skills of our staff, and combining public and private resources, while still maintaining the private nature of the NHS.

NEIGHBORHOOD REINVESTMENT STUDIES

Question: You list as one of your major accomplishments in FY 81, the completion of an OMB-requested study of the reinvestment impact of Neighborhood Housing Services programs. What were the major findings on this study?

Answer: The OMB-requested Impact Study was completed in-house under the direction of Dr. Phillip L. Clay of the Massachusetts Institute of Technology and under the advisement of a Technical Advisory Committee composed of representatives of the Corporation's Board of Directors and other housing researchers. The report is currently under review by the Technical Advisory Committee; we anticipate it will be released this summer.

In assessing the impact of Neighborhood Housing Services (NHS) programs, specific evidence of reinvestment was sought, as well as a determination of which changes are the result of NHS and which can be attributed to other events (including demographic changes, changes in the home finance credit market, increased prices of suburban housing, the general tightness of the housing market, and increased attractiveness of urban neighborhoods). Another output is the educational process that leads to the creation of local partnerships. These partnerships do the work that results in loans or investments. Therefore, these partnerships, as well as the activities they generate, also must be assessed.

The focus of the evaluation centered on the following:

- Describe the types of neighborhoods (in both social and physical terms) where the programs have been carried out.

- Describe program treatments, including a conceptual discussion of specific program elements.

- Analyze participation level, contributions to, and benefits from the program by each actor -- residents, financial institution executives, and local government officials.

- Analyze the changes in reinvestment level, lending, real estate activity, and other proxies for urban reinvestment.

- Assess the extent to which NHS is capable of delivering the range of services mandated by the model and its ability to deliver related services and to generate new tools or variations of tools to deal with problems in specific neighborhoods.

- Assess the extent to which the program is transferable to a range of neighborhoods.

- Summarize both strengths and shortcomings in a way that relates to future program planning and development.

Twelve NHS programs from the 103 programs in operation in 1979 were chosen as a sample. The programs were selected at random within the constraints of age (at least three years old), regional variation, and city size. These criteria resulted in the selection mainly of older NHS programs where multiple reinvestment tools had been applied, thus facilitating the inclusion of an evaluation of the other Neighborhood Reinvestment programs discussed below.

The Neighborhood Reinvestment Corporation sponsors other programmatic tools to deal with neighborhood concerns not addressed by the basic NHS model. Although they have only been operating a short time, two of these programs were included in the impact study: The Apartment Improvement Program and the Home Ownership Promotion Program.

The Apartment Improvement Program

The Apartment Improvement Program (AIP) is directed toward reversing decline and restructuring the financial situation in investor-owned properties. Unlike the NHS program, where the analysis is focused on the resident and the housing unit, the analysis in the AIP focuses on the apartment building and the investment decisions. The following tasks were identified for the AIP evaluation:

- A conceptual look at inner-city multifamily housing -- in particular, the decision-making process, the market, and the social and institutional issues involved in multifamily investment;

- A documentation of the original demonstration of the AIP in Yonkers, N.Y., since that city has the oldest program and the largest number of buildings in treatment;

- An assessment of the extent of spillover, if any, from the reinvestment in multifamily apartment buildings; and

- An evaluation of the experience in Hartford, Conn., and Mount Vernon, N.Y. -- the two cities where replications were at least one year old.

The Home Ownership Promotion Program Evaluation

In the Home Ownership Promotion Program (HOP), Neighborhood Reinvestment has attempted to help the NHS develop tools to deal with issues in low-density neighborhoods that cannot be handled using the traditional NHS approach. Specifically, this means helping tenants become homeowners and strengthening a real estate market made weak by extensive disinvestment.

The analysis looks at the clients who participate in the program by purchasing property, specifically, tenants who become owners and new buyers who are attracted to the neighborhood. Neighborhood promotion and marketing strategies, tenant conversion, and home purchase are the principal aims of this program element, which was added to a limited number of NHS programs where vacant property and slow activity had undermined more general reinvestment efforts.

To achieve these evaluative objectives for the HOP, the following tasks were identified:

- Examine conceptual issues associated with homeownership and home purchase in low- and moderate-income neighborhoods, particularly past problems of soft markets, abandonment, low rates of homeownership, access to homeownership, and economic and capital problems associated with the homeownership decision. A subtask was to analyze vacant housing and absentee ownership as they related to efforts to promote reinvestment.

o Examine the Baltimore program, the first NHS program to develop an HOP program. A major subtask included assessing and documenting Baltimore's experience, understanding the program's dynamics, and understanding the roles and activities of the actors and the program benefits that accrued to neighborhood residents. Also of interest was the spillover that may have occurred and the extent to which the presence of the HOP helped strengthen the real estate market, increase homeownership, and reverse decline associated with absentee-owned or vacant properties.

o Assess the Philadelphia HOP, one of the first replications of the model. The evaluation here, however, has been limited, because the program had been operating for less than 18 months when this study began.

MAJOR FINDINGS

1. The impact of the NHS program on the neighborhood.

The study noted extensive changes in building permit activity, a move toward a normally functioning real estate market, increased conventional lending activity, and in other proxies for reinvestment. Overall, the amount of improvement was significantly higher than what occurred in central cities generally (e.g., another evaluation conducted by Urban Systems Research and Engineering of Cambridge, Mass. determined through interviews in 20 NHS neighborhoods that in 1979, an average of $1,058 was spent per NHS homeowner household compared to the national average of $567.)

The study also examined the revolving loan funds to ensure that they were serving and meeting the needs of residents considered unbankable by conventional lending standards.

2. The strength of the partnership in developing and managing the goals and operations of the program.

The study examined the role of each of the partnership members (residents, financial institutions, and local governments) in developing and supporting the program. The major findings were:

a) While there was some variation in the extent and depth of resident involvement, the basic expectations of the model have been met, and residents generally indicated positive attitudes about the program and its impact.

b) The evaluation showed that financial institutions have demonstrated more than a symbolic commitment to the program. The number of financial institutions participating in the program has steadily increased and individual lenders have taken on leadership responsibilities.

c) Local governments have responded positively to the program by assigning code inspection services and by targeting neighborhood capital improvements. Cities were found to be especially supportive where the programs have decided to expand their operations to additional neighborhoods.

3. The usefulness of the Apartment Improvement Program as a tool for treating deteriorating large apartment buildings.

The study examined the roles of and program benefits to the city, financial institutions holding mortgages on the property, building owners, and tenants. The study determined the buildings treated under AIP have resulted in improved "positions" of each of the partnership members, and have shown a stabilizing influence on the neighborhood. Spin-off activity (building owners not in the AIP program making improvements to their properties) has been documented.

The program offers an opportunity for reinvestment to be expanded to a whole new range of NHS neighborhoods. The ability to treat large apartment buildings means that Neighborhood Reinvestment's programs can work in a larger number of neighborhoods and in neighborhoods with more complex problems.

4. The usefulness of the Home Ownership Promotion Program in increasing homeownership opportunities in the neighborhood and as a tool to prevent displacement.

The study examined the HOP as an additional component for NHSs that are interested in enlarging homeownership opportunities for existing neighborhood tenants, for marketing the neighborhood to new buyers, and as a tool to prevent displacement of current residents. Because the HOP program is an integral part of the NHS program it is not possible in most cases to separate the HOP impact from that of the rest of the NHS program. However, the study did note an impressive increase in the number of home purchases by neighborhood renters, the improvement of the housing stock (especially previously vacant housing), and in the creative use of financing to facilitate home purchase (including use of the NHS revolving loan fund for down payments).

Question: Has OMB requested you in FY 82 to conduct any additional studies on other activities within the Corporation?

Answer: No.

Question: Do you plan to initiate any studies -- if so, what activities will you be investigating?

Answer: Our Program Information and Research Department is currently developing an automated data base for Neighborhood Housing Services and Neighborhood Preservation Development programs, which includes demographic and other information relating to the target neighborhoods, information on program operations, and data on reinvestment and service activity. The department plans to update the AIP evaluation in the next year and will conduct evaluations of other NPD programs when enough replications have occurred to provide a meaningful base of activity.

REHAB/RENTAL HOUSING

Question: I understand that pilot projects are now underway in a number of localities in which a Neighborhood Housing Service (NHS) or other neighborhood non-profit organizations purchase and rehabilitate vacant buildings and operate these buildings as rental housing. These buildings are operated by the neighborhood and provide for the needs of lower to moderate income neighborhood renters. In which neighborhoods are these projects currently underway?

Answer: Projects are currently underway in Baltimore, Chicago, and Washington, D.C. Each project seeks to provide rental housing for low- and moderate-income neighborhood residents. The approaches range from rehabilitating small rental properties on specific target blocks in Baltimore, rehabilitating a target apartment building for tenant ownership in Chicago, to rehabilitating several large scattered-site apartment buildings as cooperatives in Washington, D.C. Financing mechanisms are a combination of public sector loans, rent subsidies, foundation grants, and private investments. In each case, the financing arrangement is the most important innovation still being experimented with..

1. Baltimore Neighborhood Rental Housing Project (Baltimore, Maryland)

The Neighborhood Rental Service is a separate corporation formed by the NHS to acquire, rehabilitate and rent problem rental properties on specific target blocks. The program combines private acquisition loans, existing Section 8 Housing Assistance Payments, and 312 loans. After rehabilitation the properties are rented to neighborhood residents.

2. Mutual Housing Conversion Project (Chicago, Ill.)

The Chicago NHS's Redevelopment Corporation (NHSRC) is pursuing a pilot process which encompasses the concepts of mutual housing, turnkey development, and the attraction of private investment capital. NHSRC is renovating and stabilizing the tenancy of a moderate-sized apartment building for conversion to ownership by a mutual housing association.

3. Jubilee Cooperative Conversion Project (Washington, D.C.)

Jubilee Housing, Inc. assists low- and moderate-income tenants in the Adams Morgan neighborhood by converting apartment buildings to cooperative ownership for existing tenants. The conversion process includes (1) acquisition, (2) initial rehabilitation to secure the buildings and improve the residents' living conditions, (3) development of tenant responsibility to increase apartment management and building maintenance skills among residents through a committee structure, (4) increasing building safety, (5) refinancing for break-even operation when existing rents can support a mortgage and operating expenses, and (6) conversion to resident cooperative ownership. Tenant participation is extensive throughout the Jubilee process.

Question: Will you be expanding your efforts in this area during FY 82?

Answer: In FY 82, Neighborhood Reinvestment may replicate one neighborhood rental services model. In addition, we will be able to utilize various successful components, such as property management techniques in the rental model, our existing Apartment Improvement Program, and the Mutual Housing Association projects. Primary emphasis will be placed upon the Mutual Housing Associations demonstration in FY 1982.

PROFESSIONAL SERVICES

Question: In FY 82, you are requesting $572,000 for professional services. This is an increase of $130,000 over your current FY 81 level. What is the justification for this increase of approximately 29% in FY 82?

Answer: Overall professional services expenditures, funded from all sources of revenue, are actually expected to decrease in Fiscal 1982. In Fiscal 1981, approximately 29% of all professional services costs are expected to be funded from sources other than Congressional appropriations. In Fiscal 1982, with a reduction in the availability of other sources of funds projected, a portion of professional services funded previously from other sources are budgeted from Congressionally appropriated funds.

Question: Please provide a breakdown of how you estimate funds will be distributed for the various services in this account?

Answer: The following schedule shows a comparison of Fiscal 1981 and 1982 professional services expenditures by type of service. This schedule includes all sources of funds.

Professional Services - All Sources of Funds
(amount in thousands)

	FY 1981 Budget	FY 1982 Budget
Monitoring and evaluation of NHS programs/NHS staff training and NHS supportive services	$298*	$299
Program development training services	154	90
Accounting and EDP services	100	50
Legal fees	40	40
Audit fees	19	20
Publications	25	25
Staff development	59	48
TOTAL	$695*	$572

*Includes $204,000 from other funding sources.

REIMBURSEMENTS FOR LOCAL DEVELOPMENT ACTIVITIES

Question: In your FY 81 budget justification you indicated that you expected to receive $1,155,000 in reimbursements for local development activities. You now estimate that you will be receiving only $735,000 in reimbursements. Why have these reimbursement estimates decreased from your original FY 81 budget justification?

Answer: It's important to note that local NHS development receipts are a result of separately negotiated contracts with local entities, and they are expended specifically on that local NHS development. These funds are used to cover direct development costs, including salary for a temporary local coordinator, office space, telephone and supplies, and a series of educational workshops for local participants in the NHS developmental process.

In 1979, when preparing the FY 81 budget justification, this estimate appeared realistic based on the projected number of NHS program starts. In actuality, with a reduced federal portion of our budget, and altered economic conditions, a smaller number of new programs started, resulting in a decrease in local development receipts.

Question: In FY 82 you estimate reimbursements will total $800,000. Based on your experience in FY 81, is this estimate still accurate?

Answer: In FY 82, as the Apartment Improvement Program has become better known, we expect budgetary support for AIP development from local sources to increase. This, in addition to our NHS goals, is the basis of our $800,000 estimate. But, again, it is an estimate made 18 months prior to the fiscal year's start.

CONFERENCES AND WORKSHOPS

Question: Last year, during the Subcommittee's hearings you stated that it was necessary for Congress to provide you with additional funds for conferences and workshops, because as the number of neighborhood programs increased, it was necessary to increase the number of conferences and workshops. In FY 82 you are requesting $592,000 for these activities. This is an increase of $72,000 from your current FY 81 level. How many conferences and workshops were conducted in FY 81?

Answer: Approximately three hundred workshops or conferences were conducted in FY 1981. These were held primarily for the purpose of developing or enhancing NHS programs and about 90% of these meetings involved NHS partners and staff as the primary participants. The other 10% of the meetings involved Neighborhood Reinvestment staff as the primary participants and were for the purpose of staff training or to conduct organizational business.

Question: What is your estimate for FY 82?

Answer: We are expecting only a small increase in the total number of workshops and conferences conducted in FY 1982, about 10 additional events. This is an increase of about 3%.

Question: What was the average cost of running a conference/workshop in FY 81?

Answer: The conference and workshop line item in our budget includes expenditures for group meals, local group transportation, meeting room rental and registration fees. The average cost per workshop of these items is expected to be $1,740 in FY 1981.

Question: How does this compare to FY 80?

Answer: In FY 1980, the average cost was about $1,580.

Question: What do you estimate these operating costs will be in FY 82?

Answer: In 1982, the average cost is expected to be about $1,970. Average costs for the line items included in this item of expense are not too helpful a measure, since the length of time, the number of participants and costs vary widely among workshops and conferences, from the National Conference lasting three days involving several hundred NHS partners and staff, and expected to cost $48,548 in FY 1982, to NHS board and committee functions lasting less than a day, involving a few participants and costing less than $400.

PRINTING, FILMS AND SUPPLIES

Question: Your printing, films and supplies account provides funds for the development and printing of the Annual Report, Quarterly Newsletters, brochures on Neighborhood Reinvestment activities and the development of slide presentations on Neighborhood Reinvestment programs for local workshops. In FY 82, you are requesting $509,000 for this account. This is an increase of $172,000 or 51% over your current FY 81 level. What is the justification for this increase in FY 82?

Answer: All but $22,000 of the requested increase is for the purpose of producing the public information film which will be used extensively in development of new NHS programs to acquaint residents, city officials and members of the business community with the elements of an NHS program.

Question: What are the costs associated with each of the activities funded under this account?

Answer: Below is a detailed break-out of items budgeted in this account.

	FY 1981	FY 1982
Office supplies such as letterheads, envelopes, pencils, pens, typewriter ribbons, etc.	$100,000	$110,000
Paper for copiers and outside reproduction costs	65,000	69,000
Conferences and workshop fliers, posters, and other printed materials	15,000	20,000
NHS directors' and rehabilitation specialists' manuals	20,000	5,000
Newsletters	20,000	30,000
Annual Report	20,000	30,000
NHS workshop I and general audience slide shows	10,000	10,000
Photo processing, slides and photo files	10,000	10,000

	FY 1981	FY 1982
Slide shows for neighborhood preservation development projects	$25,000	$20,000
Programmatic brochures	50,000	50,000
Staff development films	2,000	5,000
Public information film		150,000
	$337,000	$509,000

Question: In FY 82, you also intend to revise a public information film describing Neighborhood Reinvestment programs. Why is it necessary to revise this film at this time?

Answer: The film we currently use for this purpose was produced by the Ford Foundation seven years ago and it is now out-of-date in many respects. It also does not address any of the new components of NHS programs.

Question: What do you estimate will be the cost to revise this film?

Answer: The cost of producing this film will be approximately $150,000.

Questions for the Record: Senator Leahy:

RURAL HOUSING EFFORTS

Question: What activities has the Reinvestment Corporation undertaken to address housing needs in rural areas?

Answer: Neighborhood Reinvestment is mid-way through the development of a rural NHS model in Vermont, called Community Housing Services. More recently, we have entered into an agreement with the State of New York, to develop a county-wide, rural NHS program in Cattaraugus County, and we are in discussion with state government officials regarding the development of a program in a very rural area in Wisconsin.

Question: What are the problems that you have had to address?

Answer: Among the problems we've encountered in rural areas are the lack of adequate local private and public resources, the lack of concentrated community, the broader range of needs (i.e., sanitation, roads, new construction), and the limited capacity for local government to provide assistance. Without the funding support made available by the states of Vermont and New York, and foreseen in Wisconsin, it is unlikely that we would have been able to become involved in rural development with these states.

Question: How do these differ from problems encountered in urban neighborhoods:

Answer: Many of the basic housing services needs are similar to those of urban neighborhoods and the sense of community appears to be just as strong in a sparsely settled rural community as it is in an urban neighborhood. However, the big difference is the availability of local funding. Of the approximately $1 million needed to implement and support a rural NHS program over a five-year period, local financial institutions and local governments can supply very little.

Question: What has been the success to date of your efforts?

Answer: A major success of our activities in rural areas is the organization of Community Housing Services of Vermont, which is governed by a board of directors comprised of state-wide representatives of the public-private-community sectors. Equally of note, is the realization that the NHS approach is indeed possible on a community-wide, rather than neighborhood basis. We are confident that the NHS approach is workable in rural settings, but the development of NHS programs in rural areas is not possible without some certainty of the funding needed, not only for the development, but for the operating budget and revolving loan fund needs for at least a five-year period.

SUBCOMMITTEE RECESS

Senator GARN. The subcommittee will stand in recess until June 2 at 9:30, when we will hear public testimony on the budget requests for all the agencies under the subcommittee's jurisdiction. The subcommittee is recessed.

[Whereupon, at 11:00 a.m. Thursday, May 21, the subcommittee was recessed, to reconvene at 9:30 a.m. Tuesday, June 2.]

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT–INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1982

TUESDAY, JUNE 2, 1981

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 9:30 a.m. in room 1224, Everett McKinley Dirksen Senate Office Building, Hon. Jake Garn (chairman) presiding.

NONDEPARTMENTAL WITNESSES

SUBCOMMITTEE PROCEDURE

Mr. BERGER [presiding]. By the authority of the chairman, I call these hearings to order.

Senator Garn sends his apologies for not being here at the start of these hearings. He is currently in a Republican leadership meeting with the President and will join us as soon as possible.

In addition, at the time these hearings were scheduled, we did not know that the House-Senate conference committee on the fiscal year 1981 supplemental and rescission bill would also be meeting. This conference could cause some scheduling problems for today and, possibly, tomorrow.

The hearings today and tomorrow conclude the subcommittee's regular fiscal year 1982 budget hearings. During these 2 days, we expect to hear from 65 witnesses, 31 of which will present testimony today. Because of the number of witnesses, we will only be able to afford each group 5 minutes for their presentation. However, their entire testimony will be included in the record as if given.

On behalf of the subcommittee, I would like to welcome you all to this hearing and assure you that the information you provide will be an essential element of this subcommittee's deliberations. Today, we will hear from witnesses on EPA, NASA, National Consumer Cooperative Bank, Selective Service, VA, and part of NSF and HUD.

Before proceeding, I would like to thank Miss Cathy O'Connor, of the subcommittee staff, for her excellent work in scheduling and organizing these hearings

With that brief introduction, we will start with our first witness, Mr. Schwartz.

STATEMENT OF HARRY K. SCHWARTZ, COUNSEL, NATIONAL LEASED HOUSING ASSOCIATION

PREPARED STATEMENT

Mr. BERGER. Would you please identify youself and your association and proceed with your testimony?

Mr. SCHWARTZ. Yes, I will.

Good morning, Mr. Berger.

My name is Harry K. Schwartz. I am with the law firm of Lane & Edson and we are counsel for the National Leased Housing Association, on whose behalf I am appearing today.

In the interest of time, I appreciate the committee's kind offer to place my written statement into the record. I will therefore not read it.

[The statement follows:]

STATEMENT OF HARRY K. SCHWARTZ, LANE AND EDON, P.C., COUNSEL, NATIONAL LEASED HOUSING ASSOCIATION

Mr. Chairman and Members of the Committee:

My name is Harry K. Schwartz of the Washington, D.C. law firm of Lane and Edson, P.C. Our firm serves as General Counsel for the National Leased Housing Association. The National Leased Housing Association has nearly 700 member organizations representing all facets of the public and private sector involved in the Section 8 program. As broad as we are in membership, we are as narrow in focus -- strictly on the Section 8 program.

I am here today to urge this Committee to act on three specific concerns: first, to support and maintain a level of funding for assisted housing in fiscal year 1982 equal to that recommended by the Reagan Administration; second, to ask for your support in obtaining a waiver of the year-end spending limitations; and third, to remove the present restrictions against limited dividends as sponsors under the Section 202 program.

Adequate Funding

We are here today to praise Section 8 -- not to bury it. The program has had a proud record in its seven years of existence. At the end of this fiscal year, nearly 1.3 million American families will be living in Section 8 assisted housing. Accordingly, Section 8 will have housed in seven years as many families as have the public housing programs in forty-four.

Section 8 is more than mere numbers, it represents quality housing as well. As stated by the General Accounting Office in its recent report on the Section 8 program:

> "Housing being built for the needy under the Section 8 New Construction Program is of very good quality and, considering the quality, costs are reasonable."

Generally, similar conclusions were reached in the excellent Surveys and Investigations Staff report commissioned by the House HUD-Independent Agencies subcommittee last year.

Accordingly, we urge that Congress move with caution before abandoning what has proven to be a very effective housing program. We urge this Committee to support the recommendation of the Reagan Administration -- to provide for 175,000 units of assisted housing. We are aware that this is a 12,500 unit increase over the compromise reached by the Budget Conference Committee. However, budget authority for most of this increase would be available if Congress continues to finance public housing in the traditional manner utilizing tax exempt financing rather than through the Federal Financing Bank. In addition, we strongly support the Administration's request and the recommendation of the Budget Conference Committee of $3.6 billion in tandem funding -- as a minimum. All indications are that more funding is needed to meet the goal of "buying out the pipeline."

According to HUD figures, the 1982 Tandem program is expected to finance about 92,000 units, of which approximately 34,000 will be subsidized under Section 8. The Tandem buy out however will hardly make a dent in the total pipeline of Section 8 reservations. 147,117 Section 8 new construction and substantial rehabilitation reservations were outstanding as of March 31. Excluding the units expected to be financed through the 1982 Tandem funding, along with those financed through Section 515 and Section 202, 74,000 units are left, many of which do not have financing commitments. This figure includes almost 25,000 state agency units.

We face a problem due to the end-of-the-year spending limits imposed on HUD in the fiscal 1981 Appropriations Act. The Act limits obligations to no more than 30 percent of total funding in the fourth quarter of the fiscal year and to no more than 15 percent during any one month in the last quarter. As of March 31, HUD has reserved fiscal 1981 contract authority for only 19,520 units on a gross basis and 10,055 units on a net basis (reflecting cancellations of prior reservations.)

With the fourth quarter beginning on July 1, and the enactment of the Reagan Administration's rescission of $5.1 billion, the budget calls for 210,000 unit reservations.

Although the 30 percent rule may be salutary policy generally, its imposition this year would cause certain hardships. Because of the change in administration, and the activity slow down due to the anticipated rescission, HUD has been making virtually no program reservations and thus will not be in a position to reserve 70 percent of its authority by June 30.

For this reason, it is important that the Office of Management and Budget waive the prohibition against utilizing more than 30 percent of the Section 8 funds in the last quarter. We request that this Committee in its report suggest to OMB the appropriateness of such a waiver at this time. As Secretary Pierce stated in testimony before this Committee and the House appropriations subcommittee, HUD is in favor of such a waiver and has submitted a request for such to OMB.

Section 202 Program

Under Section 202, limited dividend entities are eligible sponsors. However, each year, by appropriations act language, participation has been limited to non-profit entities receiving 100 percent financing under Section 202. The National Leased Housing Association urges that this restriction be eliminated to permit sponsorship of a Section 202 project by a limited dividend when a non-profit entity participates as a general partner. Broadening the category of sponsors will mean better housing sooner for the beneficiaries of the program and will also provide new opportunities for non-profit entities to enhance their participation in the program.

There are many reasons why the present restriction against limited dividends should be removed. The advantages of such partnerships are many to the non-profit:

First, opening up the program to limited dividend entities having a non-profit general partner would permit non-profits to combine with profit-motivated developers to form limited partnerships to own the projects. This combination is quite frequent under other federal housing programs but is precluded under Section 202. Many federal and state housing projects began with non-profit sponsors and are now being "converted" to limited dividend sponsorship. Such arrangements take many forms; in some cases, the profit-motivated entity serves as a co-general partner along with the non-profit entity; together they sell limited partnership interests in the project to outside investors and divide the proceeds of sale. In other cases, the non-profit's share of the sales proceeds varies by project; however, it is not unusual for a non-profit to receive from 2-3% of the mortgage. e.g. $60,000 to $90,000 on a project with a $3,000,000 mortgage. Sometimes the non-profit becomes the project manager and/or receives fees for various services rendered through the project's life. The parties also agree as to who will receive what on the sale or refinancing of the project - the residual value.

This arrangement is highly advantageous to the non-profit by producing needed cash for the many expenses involved in planning and operating a low and moderate income housing project. Often, non-profits need such seed money in excess of that available through Section 106 loans. Further the non-profit might desire facilities included in the project that are not financable out of the Section 202 loan; its share of equity proceeds could be used as an equity escrow to fund increased operating expenses in the early years of the project.

Second, the expertise of the private partner can often be very helpful to the nonprofit in assuring that the project gets off to an expeditious start. Many strong supporters of the Section 202 program are concerned about the long time it takes to get a Section 202 project off the ground. In some cases, this has been due to difficulties encountered by nonprofits in locating a site, putting together the development team and the like. Participation by a private partner in the venture might be very helpful in expediting these steps. Thus, the net result could be that the intended beneficiaries of the program - needy elderly tenants - will receive housing sooner.

The National Leased Housing Association includes in its membership non-profit Section 202 sponsors who strongly favor the proposed change which would permit them to combine with profit-motivated entities in a limited dividend venture. It should be pointed out that HUD would designate a non-profit sponsor for each project as it does now. The designated non-profit would then choose or not choose to become involved in the partnership arrangement described above. Thus, in no way do we seek to eliminate or lessen the involvement of concerned non-profit organizations in providing needed elderly housing.

Thank you very much for your time today.

SUMMARY OF STATEMENT

Mr. SCHWARTZ. I assume that you, Mr. Berger, and members of the panel, are familiar with the National Leased Housing Association. Briefly, we represent nearly 700 public and private organizations who have made the section 8 program work.

I would like to touch briefly this morning just on four points:

First, to support and maintain a level of funding for assisted housing in fiscal year 1982 equal to that recommended by the Reagan administration; second, the level of funding for maintaining the Ginnie Mae tandem; third, the HUD year-end spending limits; and fourth, to remove the present restrictions against limited dividends as sponsors under the section 202 program.

First, on the issue of the level of funding for assisted housing units, as you well know, sir, the President requested 175,000 units of assisted housing for fiscal year 1982. The budget resolution assumes a level of 182,500, which represents a majority of the 12,500 under the President's request.

We very much regret the decision which was made in the budget process to reduce the number below that requested by the President.

We do feel, however, that there is a need to reinstate at least a portion of that 12,500. We would suggest that the method which is indicated in the additional views of the Democrats on the Senate Banking Committee presents an opportunity to do that. That would be by retaining the traditional mode for the financing of the public housing through tax-exempt bonds, as opposed to putting that expense in the budget with taxable financing through the Federal Financial Bank.

In view of the shortness of time, I will not go into that argument, but it is set forth in the additional views that are contained in the report from the Senate Banking Committee.

GINNIE MAE TANDEM

On the level of funding for Ginnie Mae tandem, as you well know, the President requested $3.6 billion and the budget resolution provides for that amount and it is my understanding that Secretary Pierce was in before this panel not long ago and also requested a $3.6 billion level.

I think the bottom line is if we are to make a serious effort to move the section 8 pipeline, we have to at least have that amount of tan-dem; at least that amount.

So we strongly urge the National Leased Housing Association full funding up to $3.6 billion for Ginnie Mae tandem requested by the President and authorized in the budget.

The third issue has to do with the problem presented by HUD yearend spending limits. As members of the panel and you, Mr. Berger, well know, the 1981 Appropriation Act limits HUD spending to no more than 30 percent in the fourth quarter and no more than 15 percent in any one month in the fourth quarter.

I would like to take a minute and run through some simple arithmetic. The fiscal year 1981 budget calls for 210,000 units this year and that number is adjusted for the rescissions; that is, the final bottom line number. At the end of the second quarter, which is March 31, less than 20,000 reservations had been affected by HUD. So that to meet the target as imposed by that limit, HUD would have to reserve approximately 127,000 units in the current third quarter, which ends June 30. That is simply not possible.

So we are faced with a very severe arbitrary problem and the background, of course, is clear to everyone. We have a new administration coming in there. And there was some slow movement. We hope that the committee in its report will support Secretary Pierce's request to the Office of Management and Budget for a waiver of the yearend limits as he is authorized to do, and we strongly urge the committee to include that in its report languge.

The fourth point I would like to raise, Mr. Berger, has to do with the restriction against limited dividend entities acting as cosponsors in section 202 projects. As you well know, under the section 202 statute, the statutory provision limits dividend entities which are eligible to sponsors of these projects. However, each year the Congress has inserted language in the appropriation bill which limits participation to nonprofits; that is, done really in a manner which is inconsistent with the fundamental authorizing statute, but that has been done repeatedly in the appropriations process. We urge that it not be done this year.

The National Leased Housing Association strongly favors permitting nonprofit entities to bring in limited profit entities as cosponsors for these projects. We think that doing so will serve the following two very useful purposes:

First of all, the presence of a limited dividend in such a project would permit additional up-front financing to be made available to the for-profit entity beyond that made available under the Federal grant. That, I think, can be quite helpful. Beyond that, these limited profit entities have the capacity to bring to bear on the project their expertise, which we feel would be of assistance in getting these projects off the ground more swiftly than they are able to get off the ground under present law.

Thank you very much, Mr. Berger. That concludes my statement.

Mr. BERGER. Thank you very much, Mr. Schwartz.

I think in all four issues that you raised the committee has gone on record on each of these issues over the last several years. Specifically, in the bonds area, the committee denied the administration's request several years ago to use funds for that purpose.

We are seriously considering the fiscal year 1982 implications and the $20 billion limitation proposed by the administration. We will be making some recommendations on that issue when the subcommittee considers the fiscal year 1982 bill.

The Ginnie Mae issue is one that is even more pertinent and relevant, perhaps, than either one of us expected some time ago. The financing adjustment factor coming into play will also cause us to look very closely at the issue.

On the fourth-quarter spending waiver, the Secretary assured us that he has applied the waivers in a number of program areas. One of these waivers deals with the assisted housing area and he does not anticipate a problem with OMB.

Senator Garn, as chairman of the subcommittee, will be carefully watching the outcome of the waivers submitted for assisted housing. It certainly is not his intent to restrict a program that has historically spent outlays in the fourth quarter through this kind of mechanism. As far as the limited dividend entities are concerned, I have to admit that that is a relatively new issue for the subcommittee to consider.

I certainly will bring to Senator Garn's attention the advantages you state in your testimony.

Environmental Protection Agency

STATEMENT OF ANDREW A. HOLTAN, PRESIDENT, NATIONAL ENVIRONMENTAL TRAINING ASSOCIATION

Mr. Berger. The next witness is Mr. Andrew Holtan. If you would like to go ahead with a brief opening statement. As I indicated earlier, because of the number of people appearing before the subcommittee today, we will limit you to 5 minutes.

Mr. Holton. Certainly.

Good morning. This testimony is to express the concerns of the membership of the National Environmental Training Association—NETA—with the proposed reduction in financial support to environmental training.

The NETA is a nonprofit association supported by member dues. The membership of NETA include individuals employed by academic institutions, water and wastewater treatment facilities, governmental agencies at all levels, and the private sector—consulting firms, et cetera.

WATER QUALITY AND WASTEWATER TREATMENT

Although NETA is concerned with all sectors of environmental training, this testimony will concentrate on water quality and wastewater treatment. The urgency for training and the necessity for training applies equally to the other areas of environmental training—air, solid waste, drinking water, noise, et cetera.

The control of traditional pollutants, as well as the increasing emergence of exotic environmental pollutants such as toxic and hazardous materials, involves an ever-expanding technology. Despite the tremendous investment of public tax revenues in the construction of wastewater treatment facilities, a recent GAO study reports that over 87 percent of the privately owned treatment plants operate improperly and that 31 percent are in serious violation of NPDES permit limitations. In many cases, permit limits are exceeded by 100 percent—1,000 percent in some cases—often for periods exceeding 1 year.

A report in 1980 by Hegg et al identifies the top three factors responsible for poor plant performance as:

One, failure to apply treatment concepts; two, failure to understand treatment concepts; and three, improper advice and guidance from advisors.

The International Joint Commission on the Assessment of Human Health Effects of Great Lakes Water Quality reports that optional functioning of wastewater treatment plants will require improved plant operator training.

The need for training is further substantiated when the demand and supply of qualified and competent environmental work force is examined. At present construction rates, an estimated 3,000 additional environmental workers will be needed each year as projected by the draft copy of the 1990's construction grants strategy report.

A 1980 report by the American Academy of Environmental Engineers demonstrates how critical the problem of an inadequate work force is. The academy's report shows a reduction in the number of graduates with an environmental degree and a reduction in the number of advanced degree candidates.

The ramifications are far reaching. Not only will there be a very limited supply of advanced degree graduates to continue the development of an environmental work force, but the limited supply of existing workers will result in aggressive competition for the most competent.

Because salary ranges are greater in the private sector and the Federal Govenrment, the States, counties, and local governments must settle for individuals less prepared to effectively deal with environmental challenges.

The result is that State and local governments have an even greater need for environmental training to develop a competent work force. Few will be able to take a responsible position as they attempt to deal with inflation and significant reductions in all areas of Federal financial assistance.

The necessity for training is intensified when staff and budget are extremely limited. Under these conditions, employers such as local governments cannot afford to take the time and money to correct mistakes or to increase enforcement activities.

The supply of competent operating staff for treatment facilities is equally overtaxed. As previously noted, the two top factors responsible for poor plant performance are failure to understand and apply treatment concepts. Clearly there is a significant demand for trying to develop the competency and skills necessary to properly operate and maintain these sophisticated, highly technical treatment facilities effectively.

Tremendous advances have been made in the field of environmental training and technical assistance. The Environmental Protection Agency established extensive support services for technical assistance and training to include technical guidance, direct training, and financial support for establishing local environmental training programs.

NATIONAL CENTER ESTABLISHED

The EPA National Training and Operational Technology Center—NTOTC—was established to disseminate this information, make training resources available, and coordinate training resources to minimize duplication of effort and maximize limited training funds. This responsible position has however deteriorated. Since 1973, 72 percent of the expenditures for O. & M. training were rescinded and the staff in this area reduced to 1 in each of 10 regional sections and a handful at the Washington office.

With the guidance and assistance of EPA, State governments, academic institutions and associations established training programs for the environmental work force. Few programs were, however, established as self-sufficient programs. Many depend wholly, or in part, on training resources such as manuals and financial assistance from the EPA. Although much has been accomplished as the GAO report reflects, much more needs to be done.

Everyone professes to acknowledge training as a necessary and critical entity. Private industry has long recognized that training is a cost-effective activity. How cost effective? The EPA Office of State and Local Manpower Development Branch published a report in 1973 which stated that every dollar invested in training results in a savings of $91.

Training can often represent the difference between compliance and noncompliance. The January 1981 edition of the Journal OF Water/Engi-neering and Management, reported on a wastewater treatment facility in Durham, N.C., which consistently exceeded the NPDES permit limitations. After attending an EPA workshop on "Activated Sludge Process Control" sponsored and instructed by the NTOTC, the facility's compliance with effluent requirements improved from 61 to 90 percent of the time.

The need for training is recognized and supported by all sectors of the country. The Water Pollution Control Federation—WPCF—in 1979 published the article, "Operation and Maintenance of Water Pollution Control Facilities: A White Paper," which included 40 references to the need for and recommendations for training. The national office of NETA has received numerous copies of letters stating concern and support for training ranging from the personnel advancement committee of the New York WPCF to the grassroots membership of NETA.

Other national organizations such as the American Clean Water Association, the Association of Metropolitan Sewerage Agencies, the American Academy of Environmental Engineers, and the National Academy of Sciences have expressed support for training and development of an environmental work force.

A number of letters of support have been received from several national and local associations. These letters are attached to demonstrate the widespared concern for the need for training to develop a competent work force and are not to be construed as statements of support for the specific content of the testimony submitted by NETA.

The NETA supports fiscal responsibility and reduction in Federal spending, but opposes indiscriminate elimination of all environmental training programs.

The association advocates State self-sufficiency. Through EPA-State agreements, State training plans and strategies should be established which will gradually reduce Federal assistance and increase local funding over a defined period of time resulting in a State training program which is self-sustaining. Continuation of Federal training resources, such as the NTOTC, will provide the direction and technical assistance to achieve State self-sufficiency.

CONSTRUCTION GRANTS PROGRAM

The construction grants program is the most logical source of funding for this activity. It is illogical to construct more wastewater treatment facilities when we cannot operate the plants we have.

Over $6 billion of construction grants funds are unencumbered. This approach to funding will provide financial resources without increasing the EPA budget allocation and will minimize the inflationary reduction of the unencumbered funds.

Specifically, section 205(g)(1) of the Clean Water Act of 1977—Public Law 95-217—should be amended to permit the Administrator of the EPA to award grants to the States for the purpose of carrying out work force development programs mandated by sections 104(g), 106, and 109 of Public Law 92-500.

Although precise levels of financial support are difficult to recommend without more in-depth knowledge of budget details, the following allocations are recommended for consideration:

Section 104(g)(1), operator and instructor training, $1 million; section 104(g)(3)(A), professional (graduate) training, $600,000; section 104(g)(3)(B), research fellowships, $500,000; section 104(g)(3)(C), direct training, $750,000; section 109-112, undergraduate training, $650,000; section 109-112, curriculum development, $500,000; and National Train-ing and Operational Technology Center (NTOTC), $1 million. Total, $5 million.

This total represents only 0.08 percent of the unencumbered balance of $6 billion, an insignificant sum to insure that the $44.6 billion invested in wastewater treatment facilities will be protected.

As stated previously, the NETA is equally concerned with financial and technical assistance to the other areas of environmental training. Congress is strongly encouraged to review the specific issues in this testimony and apply the concepts to the environmental training for drinking water, solid waste, toxic and hazardous materials, air quality, noise, et cetera.

The NETA is thankful for the opportunity to provide this testimony and respectfully request that Congress consider our concerns and assume a responsible position in developing a competent and qualified environmental task force.

Mr. BERGER. Thank you for your testimony.

As you made note of in your statement, this committee, in particular, has provided in the past, additional funding above the budget request for academic training and it has been rather sympathetic to the training needs, based largely on the factors that you cite about plant performance.

Do you know, or does your organization have statistics dealing with the percentage of plant nonconformance associated with engineering and design factors versus those operating in the management factors?

Mr. HALTON. The only report that I could cite is the Hegg report, which I have included in my testimony, which looks at 47 factors that impact the plant performance. The top three, as I have indicated, are training related, rather than budget design or overloading.

Mr. BERGER. Would it be possible for you to do an analysis for the committee of the breakdown of those plants that are engineering related and those that are training or operations related?

Mr. HALTON. I think that we could make an effort. That is a very broad request.

Mr. BERGER. Could you do an analysis based on the Hegg report?

Mr. HALTON. Yes. Not right off the top of my head; no.

Mr. BERGER. Thank you.

You had mentioned in your testimony that the association supports reductions in Federal spending. The subcommittee has been hearing that position quite frequently these days.

Do you have any specific areas within EPA, or those that you are familiar with in the training area, that could be reduced or phased out or phased into programs administered by States?

Mr. HALTON. In the training area?

Mr. BERGER. Yes.

Mr. HALTON. The point of my testimony is that I think in all the areas, training is probably the most critical. I would prefer to see a reduction in the construction grants funds rather than to continue to build more plants, which we can't operate and which, because we can't operate, we can't properly maintain. Consequently, we wind up repairing, replacing expensive equipment more frequently than is necessary.

I feel that rather than build a few more plants, perhaps wait, to sit back a little bit and take a look at how these plants are being operated and maintained and concentrate on that. We, in fact, find that we don't need as many new plants or upgrading if we co-op the ones that we have now.

Mr. BERGER. Thank you very much for your testimony.

STATEMENT OF ROBBI J. SAVAGE, EXECUTIVE DIRECTOR/SECRETARY TREASURER, ASSOCIATION FOR STATE AND INTERSTATE WATER POLLUTION CONTROL ADMINISTRATION

PREPARED STATEMENT

Mr. BERGER. The next witness is Ms. Savage.

Please go ahead and present your testimony. If you would like, present a summary of your statement; we will be happy to include your entire statement in the record.

[The statement follows:]

STATEMENT OF ROBBI J. SAVAGE, EXECUTIVE DIRECTOR AND SECRETARY-TREASURER, ASSOCIATION OF STATE AND INTERSTATE WATER POLLUTION CONTROL ADMINISTRATORS

My name is Robbi J. Savage. I am the Executive Director and the Secretary/Treasurer of the Association of State and Interstate Water Pollution Control Administrators, (ASIWPCA).

The Association of State and Interstate Water Pollution Control Administrators is an independent, nonpartisan organization of State Administrators of the water quality program. ASIWPCA members represent the State organizations which on a day-to-day basis implement the Clean Water Act and frequently other environmental legislation.

All 50 States, 6 Interstate Agencies, 3 Territories and the District of Columbia are represented within the Association.

The views of more than 40 State Administrators responsible for the implementation of the Federal Water Pollution Control Act, as amended, are incorporated in this statement. This information has been gleened from survey responses, Association positions, state testimonies developed specifically for use by the ASIWPCA, and individual communication with the membership. It is our intent to provide this Subcommittee with specific examples of the probable impacts of the budget reductions as proposed by the Administration for the national water quality program.

> The proposed cuts in the budget for fiscal year 1982 (FY82) for programs embodied in the Clean Water Act, are of concern to ASIWPCA, not only because of their severity, but also because of the swiftness with which they are to take place.

In most States, the FY82 operating budget requests were based on federal funding levels proposed by the Carter Administration. These budget requests, reflectings those original numbers, are now being considered by State Legislatures across this country. As of this date, many States are still unaware of all the details of the Reagan Administration's proposal, let alone the ultimate funding levels for the U.S. Environmental Protection Agency's programs.

This makes informed decision-making for Governors and State Legislators virtually impossible. Yet, State leaders must forge ahead to develop their economic strategies, armed only with obsolete data and promises of potential funding, if federal program reforms are enacted by Congress.

> ASIWPCA is concerned that the proposals to drastically cut or eliminate water quality related programs do not adequately reflect probable impacts of those reductions at the State and Local levels. States see the federal funding support for the programs being obliterated, yet few, if any, program reforms are being enacted to lessen the State and Local burden. Reforms and Reductions must come as a package if the national water quality program is to survive.

TITLE II, CONSTRUCTION GRANTS PROGRAM

The Construction Grants Program under Title II of the Clean Water Act provides financial assistance to local governments to construct sewage treatment facilities, expand existing capacity, and where necessary, upgrade the level of wastewater treatment to achieve compliance with the requirements of the national water quality program. This cost share program is only one part of the total water quality program (see attachment A), but it is indispensable to the achievement of the objectives of the Clean Water Act. It is also the foundation upon which the local government's strategy for compliance is based.

The Construction Grants Program is also necessary to provide future financial self-sufficiency of wastewater treatment in the nation. Through this program, local governments are assisted financially now and are required to adopt programs to assure the future revenues needed for longer term operation and management, including the replacement of present treatment works. These purposes suggest that the construction grants program is an investment program with a high level (75%) of federal participation.

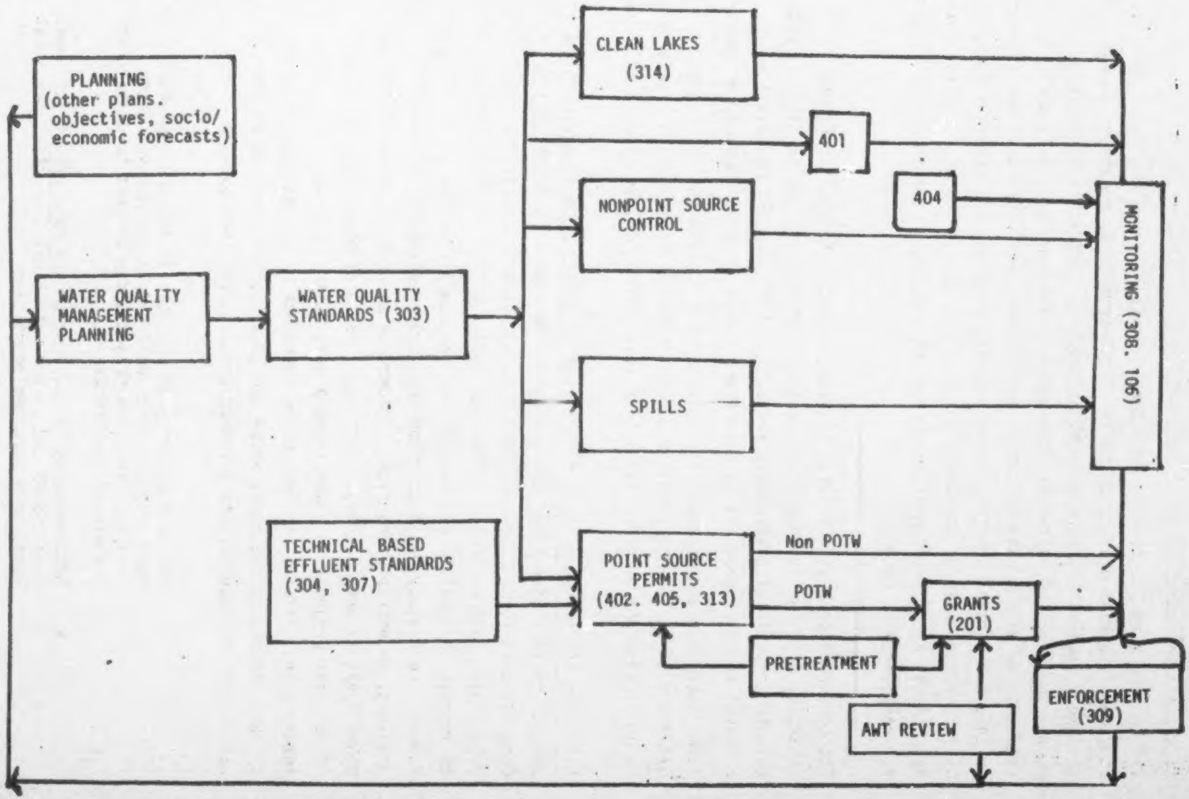
Since the 1977 amendments, the construction grants program has been the subject of intensive study and evalution (General Accounting Office, Congressional Committees, interest groups, state officials and the U.S. EPA). Each of these reviews has been a well intentioned effort to improve the quality of projects and the administration of the program. However, each study has identified and focused attention on specific problems, undesirable practices, inadequate management and control, and other types of deficiencies. Each study has presented case histories of specific projects to demonstrate a particular deficiency. All this interest and activity has led to the emergence of a negative attitude by many concerning the need, value and justification for the program. Let us put the results into a proper perspective. For example:

- The vast majority of projects in the program are good projects which will result in improved water quality. Very few projects can be used to demonstrate failure of the process.
- Most projects in the program are cost effective, meet local needs and garner sufficient support at the local level to assure implementation.
- Efforts by program managers (Federal, State and local) to improve the program, its results, process and timeliness should be viewed as a normal shake-down or refinement process. In a program the size of the construction grants program, the Congress should expect and demand a continuing effort to improve program performance. This is a positive activity which leads to enhanced program efficiency. It is also a demonstration of the interest and dedication of those involved in the management of the program.

Because of the complexity of the process and the long lead time necessary to develop a project for construction, the program must be managed. However, proper management can be done only so long as the process is predictable and stable.

ATTACHMENT A

NATIONAL CLEAN WATER PROGRAM


PLANNING
(other plans. objectives, socio/economic forecasts)
WATER QUALITY MANAGEMENT PLANNING
WATER QUALITY STANDARDS (303)
TECHNICAL BASED EFFLUENT STANDARDS (304, 307)
CLEAN LAKES (314)
401
NONPOINT SOURCE CONTROL
404
SPILLS
POINT SOURCE PERMITS (402. 405, 313)
Non POTW
POTW
GRANTS (201)
PRETREATMENT
AWT REVIEW
ENFORCEMENT (309)
MONITORING (308. 106)

The funding history of the program directly shows the level of uncertainty and the impact of this uncertainty on obligations. (see Attachment B)

FISCAL YEAR	PROGRAM FUNDING BILLION $	FUNDS OBLIGATED BILLION $
1973	2.000	1.532
1974	3.000	1.444
1975	4.000	3.616
1976	9.000	4.814
1977	1.480	6.664
1978	4.500	2.301
1979	4.200	3.872
1980	3.400	4.384
1981	3.700	4.200 *

* estimated

President Reagan has proposed a zero appropriation for construction grants for FY82, unless certain program reforms are enacted by Congress. The impacts of a zero appropriation will have a devastating effect on the management of the program, not only in fiscal year 82, but on into the outyears.

STATE IMPACTS...No funding for the program in FY82 will bring the municipal construction grants program to a halt in more than 40 states, according to information gathered by ASIWPCA. The reasons for this are quite clear. After years of program uncertainty and a sufficient number of program difficulties, States are moving past the many obstacles that have plagued this program and are moving into a stronger management mode. As a result of this improved management, States, with few exceptions, will have low unobligated balances, because there are enough projects in the "Pipeline" to exhaust the remaining FY80-81 funding by mid-FY82. Thus the funding rescissions of $1.7 Billion as requested by the Administration will cause an additional hardship.

LOCAL IMPACTS...The result is not merely a 1-3 year delay in project funding. Local communities will be forced to live with unkept commitments by state and federal officials, which will erode the credibility of this program even further. Local governments themselves have made commitments which they will unable to keep.

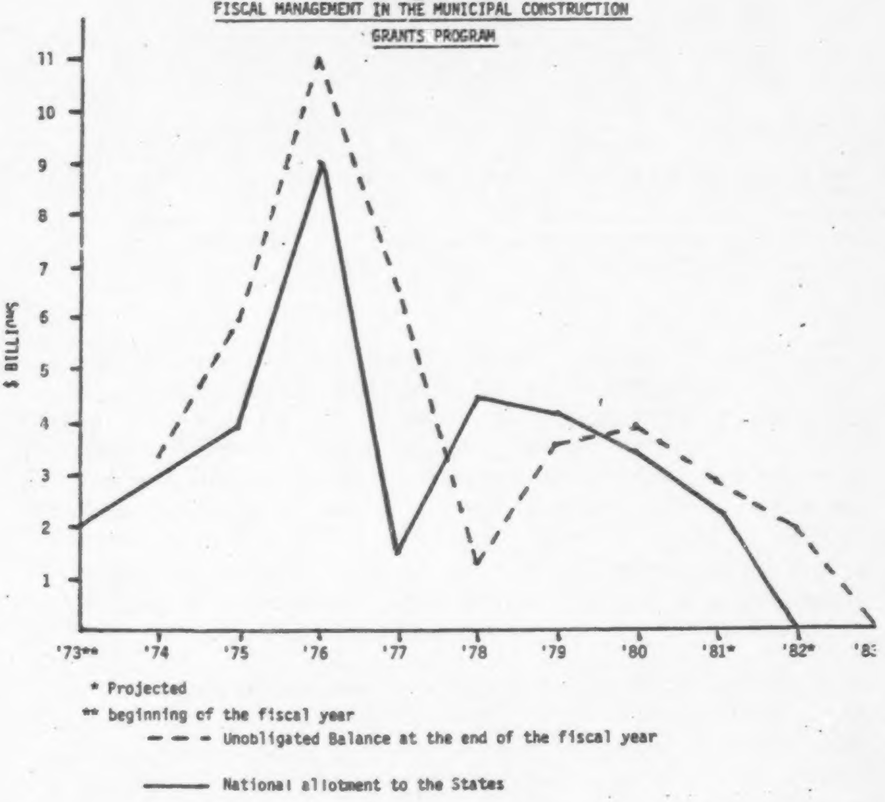
- Commitments have been made in anticipation of funding. Bonding issues have been passed and land acquired. Local planning for infrastructure (highways. buildings, drinking water) has been made with the understanding that §201 funding would be available at 75% match. Major midcourse corrections would be required with hard trade-offs to meet statutory requriements. For example, South Dakota currently has 70 communities which entered into the program. raised 25% local match, passed bond issues. and bought the land for new facilities (which is not grant eligible). Any reduction in the federal funding level will jeopardize the completion of these facilities.

- Credibility and Momentum..."Zero" funding for FY82 virtually destroys the credibility of the program. There is no stability upon which to plan rationally at the Local level. Projects in planning and design exceed the funding available for construction. There is no incentive for local communities to take further action. For example:

ATTACHMENT B

Association of State and Interstate Water Pollution Control Administrators

FISCAL MANAGEMENT IN THE MUNICIPAL CONSTRUCTION GRANTS PROGRAM



--Louisiana: Any FY81 funds left over will go to grant increases. not new projects.

--Pennsylvania: Cannot continue to fund all projects in the pipeline through to completion.

- White Elephants...Construction of many projects, particularly SMSA's, is segmented. With no appropriation, some of these projects cannot be completed. This will not only result in continued public health and water quality problems but also abandonment of partially complete, inoperable facilities.

  --Kalamozoo and Battle Creek, Michigan: Cities are in the middle of construction, with no FY82 funds available, plants cannot be completed. Operating efficiencies will not come close to meeting required effluent limitations. Battle Creek has no possibility of funding at $2.4 Billion in FY83 or beyond.

- Inflation...Inflationary cost increases resulting from project deferrals will hit local communities particularly hard. For example:

  --Salt Lake City: Inflationary costs exceed the funding available even at $2.4 Billion for State allotment.

Had communities been on notice of such action several years ago, they could have planned accordingly. A "Zero" appropriation has caught them unprepared. For example:

--Alexandria, Louisiana: Received a FY81 grant for interceptors. They are scheduled for a FY82 grant for the plant.

--Massachusetts: 14 communities under sewer moratorium.

- Fiscal Self-Sufficiency...Local communities are capable of meeting their financial responsibilities over the long term, but they cannot offset the President's proposed budget for FY82 to meet the Act's requirements. Financial planning takes deliberation and time. For example:

  --Ft. Meyers, Florida: Presently in violation of Water Quality Standards. They have survived examination of their proposed Advanced Waste Treatment and are ready for construction in FY82. This is of particular interest locally because they are under sewer moratorium. Despite careful planning and much patience, they are facing an unanticipated dilemma.

- Obsolescence...With no funding, plans for design and construction will be shelved until such time as an appropriation is available. By that time, some of these plans will be out of date, particularly with reduced funding in FY83.

State Management Under 205(g)...Most water quality activities mandated by the Clean Water Act involve direct State administration and enforcement, an approach consistent with President Reagan's philosophy of Federalism. If sufficient resources are not available to manage these federal programs, many States will be forced to return many of their delegated responsibilities back to the Federal Government. For example, if the Construction Grants Program is zeroed out in FY82 resulting in zero federal support for state management under 205(g) we know of at least 5 States that will run out of management funds by the beginning of FY82:

- Arizona--zero prior to end of FY81
- Washington
- New Hampshire
- Vermont
- South Dakota

Example:

> With the recission and a zero appropriation, Arizona will loose its management money for FY 81... The State will not be able to manage its program through FY 82 without substantially reducing program activities.
>
> Connecticut estimates that $1.1 million of 205(g) for construction grants management will be taken by the recissions.

In addition, we know of at least 10 other states whose programs may come to a virtual standstill later if no funding is appropriated. These states include:

- Georgia
- Idaho
- Iowa
- Maine
- Maryland
- Michigan
- Mississippi
- Montana
- Nebraska
- Rhode Island

This means that nearly 1/3 of the States may be forced to turn back delegated functions of the construction grants management to the U.S. Environmental Protection Agency because of inadequate funding.

Urban v. Rural Funding

The goal of the Clean Water Act is to make the nation's waters swimmable and fishable by 1983. As a result, most State efforts in the early stages of the program concentrated on the largest discharges. This is because clean-up of these sources produced the most dramatic improvements in stream quality. Now many States need to focus their attention on the smaller communities which have for years been unable to make the state's priority lists.

Example:

> In Minnesota, even at a $2.4 billion funding level, the outstate (rural) program will be nearly halted. The Minneapolis/St. Paul project is so large and costly that funding of this project will demand the totality of several years funding. Further, 174 of the 190 communities which have now received funding commitments have been notified by the State that they can no longer honor the agreements.

Most small communities use septic systems and many States, utilizing their §208 funding, have discovered vast numbers of malfunctioning septic tanks. There is evidence of groundwater contamination, effluent ponding in neighborhood yards, and even direct discharge of sewage into streams and roadside ditches. Yet, these communities are again being told that they must wait to solve their water quality problems. These communities are in a sense, being placed "on hold", one more time. And, with the dramatic cuts envisioned in the House Budget Resolution adopted just yesterday, states will be placed in the position of having to enforce Federal and State statutory requirements against small communities, knowing full well that these communities are unable to afford remedial activities and hence will have no means of compliance.

When both large and small projects pose significant water quality problems, as is frequently the case, the trade-offs between human health, water quality improvements and, in some cases, baseline politics, come into play. This situation is exacerbated by the Administration's Reform Package which emphasizes a water quality based program while calling for an urban industrial focus. In many states, these two approaches are incongruous.

A secondary plant discharging into the mainstem Missouri River may have little impact on the quality of the receiving waters because of the enormous pollutant loadings already contained in this massive water body.

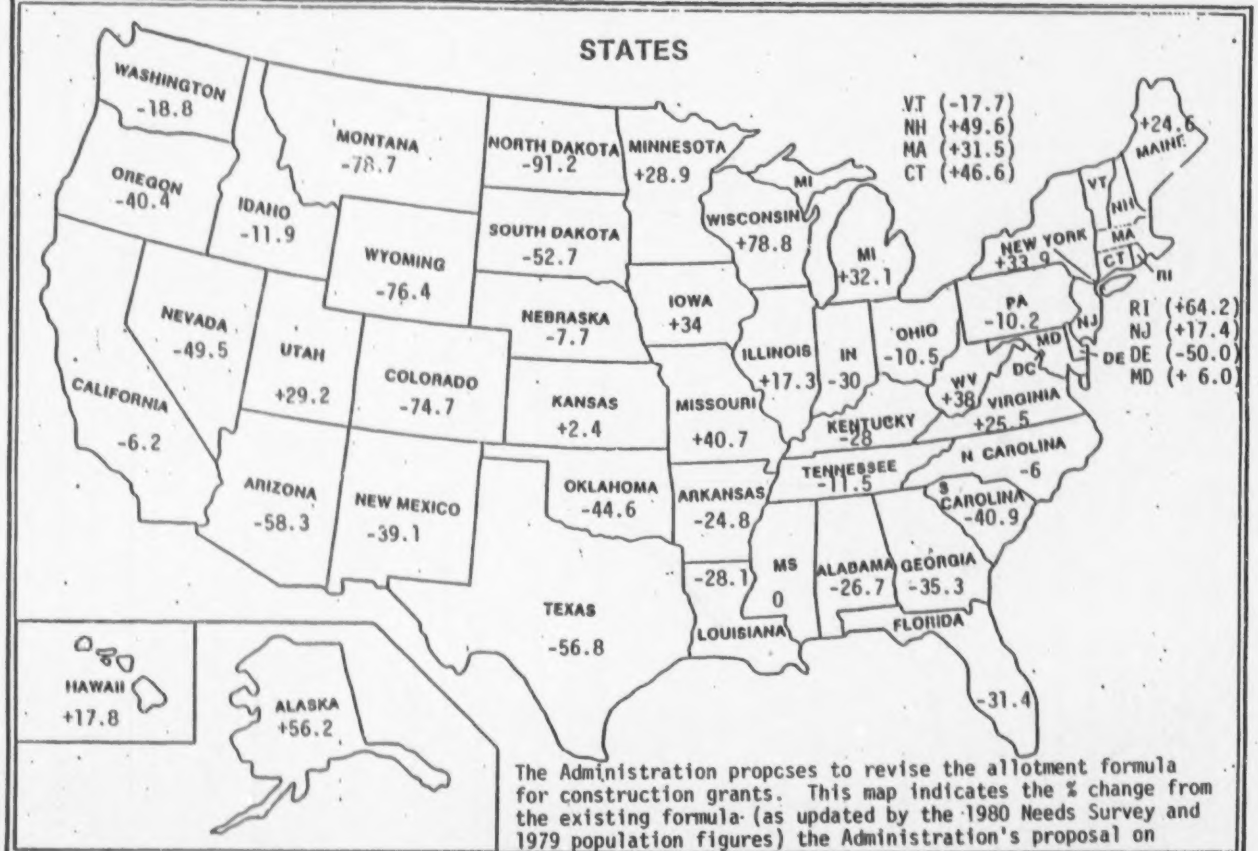
This same plant, discharging into a small stream in an upper Iowa tributary may significantly improve the water quality and provide additional uses for the stream reaches.

ASIWPCA maintains that States must have the authority to make their own determinations on how best to achieve State water quality standards.

WATER TREATMENT TECHNOLOGY

Another matter of significant concern is the federal program for "innovative and alternative" (I/A) wastewater processes and techniques. The States realize the strong Congressional leadership that has been exerted in this aspect of the national water pollution control program. The Clean Water Act of 1977 clearly added new emphasis on I/A technology. As the legislative history shows, the intent was to expand the use of I/A technologies and. further, to force even newer and more effective technologies. At the same time, however, the Congress was equally firm in cautioning the US EPA to carry forward the I/A program so as not to cause delays in the construction grants program. States share these concerns.

The Construction Grants Task Force of ASIWPCA has evaluated this program. In a recent questionnaire survey, the Task Force members were asked to express their opinions on the use of mandatory set asides for driving the I/A program. Members voted against continuation of the 4 percent rural set aside by a margin of three to one, and against continuation of the 2 percent I/A set aside by a margin of two to one. These results are not merely reflections of excess technical conservatism on the part of the States.


STATES
WASHINGTON -18.8
OREGON -40.4
CALIFORNIA -6.2
IDAHO -11.9
NEVADA -49.5
MONTANA -78.7
WYOMING -76.4
UTAH +29.2
ARIZONA -58.3
COLORADO -74.7
NEW MEXICO -39.1
NORTH DAKOTA -91.2
SOUTH DAKOTA -52.7
NEBRASKA -7.7
KANSAS +2.4
OKLAHOMA -44.6
TEXAS -56.8
MINNESOTA +28.9
IOWA +34
MISSOURI +40.7
ARKANSAS -24.8
LOUISIANA -28.1
WISCONSIN +78.8
MI
ILLINOIS +17.3
MS 0
MI +32.1
IN -30
KENTUCKY -28
TENNESSEE -11.5
ALABAMA -26.7
OHIO -10.5
WV +38
VIRGINIA +25.5
N CAROLINA -6
S CAROLINA -40.9
GEORGIA -35.3
FLORIDA -31.4
PA -10.2
NEW YORK +33.9
MD
DC
NJ
DE
VT
NH
MA
CT
RI
MAINE +24.6
VT (-17.7)
NH (+49.6)
MA (+31.5)
CT (+46.6)
RI (+64.2)
NJ (+17.4)
DE (-50.0)
MD (+ 6.0)
HAWAII +17.8
ALASKA +56.2

The Administration propcses to revise the allotment formula for construction grants. This map indicates the % change from the existing formula (as updated by the 1980 Needs Survey and 1979 population figures) the Administration's proposal on limiting eligibilities and population coverage would have on State funding.

I would characterize the current situation, which generates these State concerns, as follows. What rightfully began as a Congressional concern for more progressive application of wastewater treatment technology is rapidly turning into another complex bureaucratic exercise. Review of I/A projects is involving more and more duplication of effort between the States and the US EPA Regions and Headquarters. This runs counter to the 205(g) delegation to the States, which sought to expedite the grant program. Additional manuals, guidance and policies are further complicating an already over-burdened federal construction grants program. In other words, something vital has apparently been lost in the bureaucratic translation of the concerns of Congress.

ASIWPCA recommends that Congress carefully consider the Administration's proposal to eliminate the mandatory set asides. I further suggest that a critical first step toward guiding the I/A back to a more productive perspective involves a more comprehensive focus on the "operative meaning" of wastewater treatment technology. For example, why not focus our attention on the application of "appropriate technology." By this approach, I mean developing improved correlation between specific wastewater treatment technologies and long-term, realistic community capabilities. The Clean Water Act already contains some initial aspects of such an approach. Small communities with populations of 3,500 or less are specifically identified for special emphasis. A combined Step 2 + 3 construction grant is limited to communities of 25,000 or less. The innovative aspect of the current program is especially sensitive to constraints imposed by community complexity and capability. For example, small communities generally need relatively simple, less demanding technologies, such as lagoons, while many larger communities (greater than 100,000) must address significant "sunk costs" in terms of existing hardware.

I can assure you that the ASIWPCA Construction Grants Task Force will be actively pursuing additional means for using wastewater treatment technology more effectively:

- A discretionary, goal oriented approach to encourage I/A technologies.
- Reimbursement of Step 1 application costs for small communities.
- Incentives for State programs, grantees and consulting engineers to perform high quality project planning, a concept embodied in S. 1328 and H.R. 4113.
- Improved technology transfer and information sharing among States.
- Improved program management techniques.

SECTION 106 - STATE PROGRAM GRANTS

The Administration's fiscal year 1982 budget contains $51.200 Million for grants to States to support the total water quality program administration (except for construction grants management in those States with delegation under Section 205(g)). The dollar amount requested for FY1982 is comparable to the fiscal year 1981 appropriation level ($51.230 Million). Even at these dollar amounts, there are significant cuts in program support due to inflationary erosion. Further reduction in the federal funding for State programs will cause more serious program curtailments than are now planned.

We all know that many forces are at work in financing the environmental and other government programs. For example, 1) the need to reduce federal spending; 2) limited State ability to increase spending; 3) increases in program costs each year at a rate faster than program simplification and efficiencies can be developed and implemented: and 4) the scope of the water quality program continues to expand through the addition of new activities such as advanced waste treatment reviews, industrial pretreatment programs, second round of NPDES permit issuance, implementation of nonpoint source pollution control programs resulting from the Section 208 planning program, toxic pollutant monitoring, water quality standards concerns, etc. To dismiss any one of these factors or to minimize their cumulative impact is unrealistic. To fail to recognize the consequences, within the structure of the present law, of imposing management activity prioritization will destroy commitment to and credibility of the national water quality program. We must strike a realistic balance between aspiration of the program as reflected in the law and fiscal and program realities which now exist.

I wish to stress several major points. First, the level of federal funding available in most States has an affect on the level of State funding available. In other words, States cannot sustain the full burden of justification for this program at the State level alone. When federal funding commitments lessen, the State cannot automatically absorb the losses due to inflationary impacts and the costs associated with new program demands. Any "freed-up" 106 funds resulting from the 205(g) delegation have, at this time, been completely absorbed by the effects of inflation and new program requirements such as pretreatment. Thus potential "trade-offs" between available funding sources are, in reality, eliminated.

The Section 106 water quality program is the foundation of the States' water pollution control program, certainly one of the most effective environmental programs. This program definitely warrants continued federal financial support.

In summary, though ASIWPCA supports the requested level of funding for the Section 106 program of $51.200 Million for fiscal year 1982, the requested level of funding is, in reality, a program reduction. Unless program cost increases are made up from State resources, an unlikely situation in most every State, given the mass of funding reductions in most environmental areas, this program too will become most difficult to manage.

INDUSTRIAL AND MUNICIPAL COMPLIANCE

The National Pollutant Discharge Elimination System (NPDES) Program is in serious jeopardy. The present situation cannot continue where States are faced with EPA mandated criteria, short statutory deadlines, overly burdensome regulatory requirements and funding short falls. These problems will bring the program to a halt and undermine the credibility and viability of the Act. States have managed the program well under the circumstances. Delegation has made some progress toward the intended result, i.e. expediting the program and reducing costs. The problems are the major impetus behind the States' desire to institute legislative and regulatory reforms. States firmly believe that with streamlined requirements and economies, the NPDES program can be viable. There need be no compromise on water quality.

Recent inflation and resource constraints have made the situation intolerable for several reasons:

- Federal requirements placed on State government have increased. Examples include pretreatment, the consolidated permit regulations and priority pollutant coverage. Future efforts to control toxics will increase resource requirements. Even in moderately industrial States, toxic controls will be technically complex and costly.
- Funding has not kept pace with program growth and requirements.
- No effort has been made to streamline.

For example, Michigan estimates the State expends 20-30% of its NPDES resources just to keep staff current with ever changing requirements and paperwork. This diversion of resources yields no improvements in water quality. With inflation and growing program responsibilities, understandably more resources are required to maintain the status quo unless US EPA streamlines the program. Neither has occured. Consequently, States must cut back on NPDES program activities. Enforcement and compliance monitoring appear to be the most frequent targets. The outlook for future delegation is bleak. As resources are constrained, States must contemplate the return of delegated functions to US EPA.

Although States had minimal problems with the 1977 deadline of BPT for industrial sources. they have not been as fortunate in other program areas. POTW and BAT deadlines are causing serious problems due to delayed guideline issuance and 201 funding.

With no funding for Construction grants in FY82, many municipal facilities, in spite of good faith efforts and careful planning, will be out of compliance. Court orders will go unmet (See attached). Many of these projects are the culmination of years of concerted efforts by Communities and State and Federal governments. In this Committee alone, many communities will be affected. Many other facilities are under State orders. The States must make hard choices as funding is limited.

COMMUNITIES UNDER FEDERAL COURT ORDER

MASSACHUSETTS:	Lynn Stockbridge
NEW YORK:	New York City
WEST VIRGINIA:	Franklin Hurricane Triadelphia
PENNSYLVANIA:	Philadelphia
WASHINGTON, D.C.	
KENTUCKY:	Danville
NORTH CAROLINA:	Lenour
FLORIDA:	Orange County St. Petersburg

MICHIGAN:	Detroit
INDIANA:	Gary
ILLINOIS:	West Chicago
LOUISIANA:	Bernalillo East Baton Rouge
MONTANA	Bozeman
IDAHO:	Twin Falls
SOUTH DAKOTA;	Yankton
CALIFORNIA;	Los Angeles

Most States report good municipal compliance rates. Results do not approach the levels of noncompliance reported in the recent GAO study for several reasons. Although some new plants have problems, generally they operate well. On the other hand. "old plants" have substantial compliance problems. They frequently do not have secondary treatment, are at or exceeding capacity. and/or operating with antiquated equipment. For example, more than 90% of municipal facilities operating in Georgia were constructed without P.L. 92-500 funds and prior to US EPA's regulations defining secondary treatment, therefore they are in noncompliance.

Need can be minimized in this area with substantial cost savings. States question the appropriateness of some of these requirements for water quality. Secondary treatment should not be required where it would have minimal or no water quality benefit. "Old" facilities are capable of providing biological treatment. In many cases this is adequate for stream uses. Other measures can be taken. For example, ocean waivers are still under development. Ocean disposal is under reconsideration.

Virtually all States indicate substantial BPT compliance. However, the rate of industrial compliance will deteriorate dramatically as BAT statutory deadlines approach. The NRDC consent decree is unworkable. The Act established almost impossible time frames for development of criteria, standards. and guidelines. This, coupled with the almost universal failure of EPA to successfully issue them, makes rational administration impossible.

PRETREATMENT

The original requirements for pretreatment were contained in the 1972 Act. Congress established the program to prevent industrial interference with POTW operation, sludge contamination, and ambient water quality problems. States support the Congressional intent. They agree industrial flows to municipal plants can cause problems and pretreatment should be provided in those instances. However, they strenuously object to the way in which the program has been administered.

Almost nine years have passed since the 1972 Act without implementation. The cause of this delay is no mystery to the States. The approach taken by US EPA in implementing the law is unworkable and totally insensitive to State and Local circumstances. US EPA requirements are precedurally very complex and difficult to administer at the State and Local level. The time frame for compliance is unrealistic because of these burdensome requirements and EPA's failure to successfully promulgate categorical standards. The program established by US EPA has unreasonably broad coverage. 250,000-350,000 industries and 2500 POTWs are potentially affected. 65 priority toxic pollutants in 34 industrial categories are included. While States are experienced at controlling and monitoring heavy metals, organics coverage is pushing the state-of-the-art. Rather than require pretreatment as needed. US EPA's program assumes industrial discharges cause a problem. This requires unnecessary state, local, and industrial expenditures with questionable water quality benefits.

States and municipalities do not have the resources to administer US EPA's burdensome and overly broad approach to pretreatment. Particularly, with no funding for construction grants or 208 funds and limited 106 support. The cost is prohibitive. in some States. In others, the program must make a trade-off between NPDES and pretreatment, both of which are requirements. It is inconceivable with the problems already encountered in the NPDES permit program, that EPA's very complex pretreatment program can be administered in any reasonable fashion. If such were not the case, nine years would not have been necessary for program development. The situation will only deteriorate in the future if the problem goes unaddressed.

States believe it is possible not only to implement an adequate pretreatment program within the resources available, but also to expedite compliance with reforms.

WATER QUALITY MANAGEMENT PLANNING

The Water Quality Management Planning Program. presently authorized under Section 208 of the Clean Water Act, is an important component of the national water quality program.

Nonpoint sources of pollution are important and less is known about the effectiveness and cost of various options for control. Though the Administration's request for funding for §208 has been eliminated, a large number of priority activities remain, including:

- Development and implementation of programs to deal with surface water quality impacts from urban stormwater, and pollution from both agricultural and construction activity.
- Proper disposal methods for pollution control residuals to preclude recontamination of surface or groundwater.
- Groundwater contamination sources and an evaluation of relative pollution potential from such sources.

Of equal priority, however, should be a new national priority to review and examine the adequacy, validity and attainability of state water quality standards. Both scope and stringency of point source and nonpoint source control measures are determined by water quality standards. The next two years should be appropriately devoted to a thorough re-examination of the technical and socioeconomic basis for water quality standards--after all, these standards will provide the foundation for the program through most of the 1980's, Consequently. alternatives to fund the elements embodied within §208 should be sought.

WATER QUALITY STANDARDS

There is no question that water quality has incrementally improved since the passage of the Clean Water Act. By and large the nation's waters are fishable/swimmable. Systematic national documentation of improvements continues to be frustrated by conflicting priorities, resource limitations, and lack of clear policy direction. Improvements are more easily documented on a localized basis. States carefully point out that their success in maintaining existing water quality as population and industry develop may be a more meaningful indication of progress and effective management.

In spite of the many improvements in water quality, violations of water quality standards persist. They tend to be localized problems rather than widespread. Problems were primarily related to POTWs and/or nonpoint sources. Toxics and groundwater were also mentioned with some regularity. States project that violations will diminish as sewage treatment plants come in line and statutory requirements are met. However, this will not occur within the established deadlines because of delay in issuing BAT guidelines and limited construction grants funding.

Nearly all States feel that some uncontrollable sources, most notably nonpoint sources, make standards unattainable in some instances. Even where sources are controllable, virtually all States question the reasonableness or affordability of achieving standards in certain circumstances. States believe attainability and affordability should be squarely addressed in the standards setting process as set forth in the Act and US EPA policy. For example, environmental reality dictates that without adequate funding, AWT projects will not be constructed and many stream segments will not meet standards. Also, without more realistic and attainable standards, many stream segments will continue to attract funding for projects of questionable value in terms of water quality improvement. "Cost benefits" must be considered in conjunction with development of point and nonpoint source controls.

Although there is consensus that attainability and affordability are very important aspects of Water Qualtiy Standards. States caution that these can be difficult determinations to make. They are resource intensive, frequently requiring monitoring, cost-effectiveness analysis, advanced waste treatment studies, and point/nonpoint source trade-offs.

States take strong exception to the Agency policy on water quality criteria. Problems with criteria center around US EPA's policy on the application of "Red Book" criteria. The "Red Book" sets out EPA national recommendations on ambient criteria levels necessary to protect uses. States strenuously object to the Agency's practice of "presumptive applicability" of those "Red Book" numbers. Unilateral application of the Red Book levels has resulted, many States maintain, in the institution of untold millions of dollars of treatment with negligible or no water quality benefits. The policy has, in fact, been a disincentive to criteria adoption.

SECTION 314 -- CLEAN LAKES PROGRAM

Section 314 of the Act establishes a grants program to deal with water quality problems impacting lakes, an important part of the aquatic ecosystem. Although this provision of the Act has not received high US EPA program priority assigned other activities, the lakes program is important and progress has been made.

US EPA has provided limited grant assistance to States in Fiscal Years 1979, 1980, and 1981 to expedite development and implementation of lake classification procedures. Following a classification system for lakes to enable systematic identification of the most serious problems, the Phase I (planning) and Phase II (implementation) approach to defining and resolving problems with specific lakes is a well reasoned process, including the different cost share rates set for each phase of activity.

Lake restoration is an immense undertaking which clearly cannot be addressed to a significant extent on a national basis with historic or requested level of funding. For this reason, ASIWPCA advocates an approach to focus some minimal level of funding on measures and management programs needed to preserve presently high quality lakes which can be identified in each State.

PROGRAM REFORMS

States repeatedly stress the need for program stability. State management simply cannot gear up and down at a whim. Wide fluctuations in funding disrupt ongoing projects; frustrate State and Local ability to maintain staff, plan and raise funds; and undermine the participation of construction and engineering industries. States strongly believe that program vitality can be maintained at reduced funding levels if reforms are instituted.

Specific recommendations on program reforms, as adapted by ASIWPCA, are attached. In brief, the Association recommends:

- adequate, stable multi-year authorizations consistent with the rate of progress desired, mandated clean-up deadlines, and national fiscal constraints;
- streamlined requirements in priority setting and planning;
- include in legislation an equitable system for distribution of construction grant funds among States and fund the system on a multi-year basis. Such a system must consider actual overall water pollution control needs within each State and the rate at which locally developed projects are expected to need funding. Apply two-tier funding.
- continued support for technological creativity and innovation in wastewater treatment through the innovative and alternative (I&A) program authorized by Congress. Administrative obstacles which currently retard the effectiveness of these programs must be removed. The mandatory provisions should be eliminated but the incentive funding provisions to encourage expanded use should be retained.
- extension of compliance deadlines;
- revised secondary treatment requirements where unnecessary for water quality or unrealistic;
- a deferral rather than elimination of project eligibilities because States must have the flexibility to address their water quality needs in an efficient/effective manner.

A transition phase is vitally important in reducing Federal expenditures and pursuing reforms as requested by President Reagan. Abrupt changes could devastate the program. Local financial self-sufficiency does not happen overnight. Many legislative and regulatory changes must be made at the Federal, State, and Local levels. And all of this takes time.

None of this is to say that the Federal budget should not be reduced, but ASIWPCA, supported by the position of the nation's Governors, contends that:

- State Government must have sufficient lead time to adjust their own laws, budgets and administrative procedures to accommodate major changes in federal funding and policy.
- State Government must have increased flexibility in administering Federal programs and this must come simultaneously with the budget reductions for the cuts to be acceptable.
- State Government must have a strong consultation role in the detailed development of legislative and regulatory proposals to implement the President's plan. This detailed consultation must begin immediately.
- States should have the primary responsibility for identifying critical needs and the authority to shape their programs to meet the identified needs. The appropriate role of the Federal Government is to provide technical assistance and program oversight. When a State assumes responsibility for the operation of a program or has adopted a standard which has been approved by the Federal Government, US EPA review of individual State actions should be replaced by periodic program audits. US EPA's role should be limited to program oversight to the extent of assuring the protection of public health and the compatibility of standards on interstate streams.

As you can see, Mr. Chairman, these are not only funding issues. They are fundamental questions that must be addressed by the States, the Congress, and the Administration.

RECOMMENDED REFORMS TO MAINTAIN PROGRAM VIABILITY AT REDUCED LEVELS OF FEDERAL COMMITMENT

States support the President's effort to reduce Federal spending and believe that the water program can assume its fair share of the budget reductions without devastating effects PROVIDED certain reforms are instituted. Although these changes are major, they can be accomplished with a scalpel. They do not require a massive rewrite of the Act or unduly disrupt Agency activity. The program will benefit from increased State responsibility and improved efficiency. In summary:

- Construction Grants funding, whatever the level, must be stable. States cannot rationally manage the program and maintain the necessary staffing and expertise with widely fluctuating, unpredictable funding levels. Local communities cannot participate with any assurance of outcome.
- US EPA requirements must be streamlined to expedite the program and minimize costs. States must have flexibility to pursue the most expedient approach to the Act's objectives.
- Compliance deadlines are unrealistic, given the present circumstances, and must be modified.
- A transition phase is vitally important in maintaining program momentum while reducing federal expenditures and pursuing reforms.

INDUSTRIAL CONTROL
NPDES PROGRAM

- Clean Water Act Goals
  Goals must be reasonable and consistent with the funding available and resource capabilities. States and the NGA recommend that the 1983 goal of fishable/swimmable waters be extended to the year 1990. Zero discharge should be eliminated as an unrealistic goal.

- Delegation
  ASIWPCA and the NGA support full and partial delegation of the program. A State program should be approved if it meets the substantive intent of the Act. EPA should redirect its resources to the major areas of responsibility, i.e. guideline issuance, technical assistance and program oversight. EPA review of individual State actions should be replaced by auditing for results. EPA should focus on protection of public health and interstate compatibility. With delegation, EPA guidance should not be mandatory.

- Streamlining
  ASIWPCA and the NGA support streamlining the NPDES program to reduce resource requirements and provide more flexibility and maximum water clean up. Specifically, the requirements should:

  1) focus on results, not procedural requirements;
  2) minimize reporting frequency and coverage to that necessary under delegation;
  3) expand the use of general permits relying on State discretion;
  4) deregulate deminimous sources;
  5) eliminate consolidated permit regulations, leaving States' flexibility to establish procedures to fit their circumstances;
  6) increase permit duration;
  7) eliminate national public participation requirements--States have adequate procedures to involve the public.
  8) redefine "major" to give more weight to water quality impacts;
  9) streamline compliance/enforcement EPA procedural requirements.

- §106
  §106 funding must be commensurate with the level of Federal requirements.

- Compliance
  Compliance evaluation should focus on substantial violations of water quality standards and effluent limitations.

- Secondary Treatment
  EPA must revise the definition of secondary treatment to accommodate more conventional treatment consistent with water quality needs. 85% removal should be eliminated as a requirement.

- Operation and Maintenance (O&M)
  Increase the national priority for O&M. EPA should increase technical assistance and training. Section 104 should be reauthorized to provide multi-year appropriations for training, research and investigations. More than one facility per State should be allowed in Section 109 with no grant limitation. Up to $4,000,000 should be available per State.

- POTW Deadlines
  POTW deadlines should be realistic and consistent with the funding available. Therefore mere statutory deadlines are inadequate. POTW compliance requirements should be derived from State strategies which integrate water quality analysis, funding, State management, and justifiable enforcement actions into reasonable effluent limitations and schedules. NPDES permits should translate that strategy into facility specific requirements.

- AWT

  AWT review should be conducted at the State, not Federal, level where States are knowledgeable of the situation and can expedite review. National policies for Water Quality Standards, AWT and Combined Sewer Overflow should be coordinated for consistency. Policy should be applied "front end" rather than at the close of the decision making process.

- Self-sufficiency

  ASIWPCA and the NGA believe local communities must build toward financial self-sufficiency. They must improve their capability to operate POTWs as a "utility." The national priority for such activities should increase. States should use 201 funding wherever appropriate.

- BPT

  Continue to require BPT as the minimum National treatment requirement for industrial dischargers. Most industries have complied with the first round of BPT controls which provides a base program from which to launch the next round of toxic controls. States strongly support minimum controls as an integral part of overall water quality management.

- BCT

  Modify the approach to BCT for conventional pollutants to allow as an alternative, water quality equivalency. With minimum level controls in place (i.e. BPT), States believe that water quality considerations should be used to assess the need for further treatment of conventional pollutants. In addition, some industries already provide treatment more stringent than BPT to meet State water quality requirements. In these instances, there is valid concern about providing further treatment. Water quality based controls should be an option to BCT requirements when they have equivalent effects.

- BAT

  Deadlines for BAT should be triggered solely by guideline issuance. Compliance should be required three years from guideline promulgation. Up to a five year varience should be allowed where industry demonstrates, via monitoring or other suitable mechanism, that BAT is not necessary to water quality. EPA should promulgate BAT guidelines as rapidly as technically prudent. Such efforts should be undertaken with the specific objective to control toxics, not "treatment for treatment sake." Permits should be reissued on schedule for the normal duration period. Ad hoc application of BAT through best engineering judgement, pending guideline issuance, should not be required. The permits should have reopener clauses for BAT and requiring in the interim any appropriate monitoring, special process evaluations, and best management practices. This will build an information base for site specific applications of BAT requirements.

MUNICIPAL FACILITY MANAGEMENT

-- Maintain the current structure of the construction grants program through the FY81 appropriation period

Rationale - The CWA of 1977 established a five-year commitment (FY78-82) to the 75% federal share, eligible categories of need, and funding levels. States and local communities, in turn, designed their programs around these key parameters. The cost share incentive for I/A technology and eligibilities for this program should be retained, but the requirement for set asides to apply the incentive should be eliminated. States should have the option to reduce the federal cost share to less than 75% of eligible project cost. Even minimal concern for maintaining the continuity of the grants "pipeline" and program momentum calls for completion of this five-year program.

--Implement a revised construction grants program with the FY82 appropriations, with FY82 as a transition period from the prior program to the revised program

1. Each state should develop, for review and approval by US EPA, a strategy (all pollution sources) in the FY83 program plan and project priority list which emphasizes water quality impacts. All projects (or portions thereof) should be classified into one

of three categories - (I) necessary to meet or achieve progress towards water (surface and groundwater) quality and/or public health protection requirements. (II) necessary to meet minimum treatment requirements, and (III) all others. Grants funding should be consistent with the priorities, schedules, and program activities set forth in the state strategies.

2. US EPA should redefine "secondary treatment" to eliminate the present 85% removal of pollutant requirement and allow the maximum range of biological, or equivalent, treatment technologies to be utilized. This action should be taken by January 1, 1982 at the latest. (See Attachment A)

3. The allotment formula currently used should be retained in FY82 and for future years to distribute available funds to states. The formula data should be updated to reflect 1980 population and eligible needs for the future program as identified in the 1980 needs survey.

PUBLICLY OWNED TREATMENT WORKS

I. PROPOSAL

-- Maintain the current structure of the construction grants program through the FY81 appropriation period

Rationale - The CWA of 1977 established a five-year commitment (FY78-82) to the 75% federal share, eligible categories of need, and funding levels. States and local communities, in turn, designed their programs around these key parameters. The cost share incentive for I/A technology and eligibilities for this program should be retained, but the requirement for set asides to apply the incentive should be eliminated. States should have the option to reduce the federal cost share to less than 75% of eligible project cost. Even minimal concern for maintaining the continuity of the grants "pipeline" and program momentum calls for completion of this five-year program.

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3 The allotment formula currently used should be retained in FY82 and for future years to distribute available funds to states. The formula data should be updated to reflect 1980 population and eligible needs for the future program as identified in the 1980 needs survey.

4. "Second round" grants should be prohibited for expansion of facilities under PL 92-500 and its later amendments. Local financial self-sufficiency should be assumed to have been realized through construction of projects funded since 1973.

5. A two-tier incentive funding proposal should be adopted and implemented.

6. US EPA should implement by FY83 major streamlining of the construction grants program and requirements.

7. The federal cost share should continue to be 75% of grant eligible cost (85% for projects utilizing alternative/innovative technology) for projects eligible for cost share. States should have the option to reduce the federal cost share to less than 75% for eligible projects by category of need or by step in project development or both.

8. Reserve treatment plant capacity for allowable growth should remain eligible) for federal financial participation to assist local government in realizing local financial self-sufficiency in wastewater treatment, and in adjusting management policies and practices into a utility management mode.

9. Water quality analysis for treatment plants utilizing advanced treatment should continue, but with delegation of approval authority from US EPA Headquarters to US EPA regions or to delegated (205g) states.

10. Eligibility for need categories for the next five-year period should be consistent with adopted ASIWPCA position No. 37 as follows:

    a. The present moratorium on funding projects for treatment of separate stormwater flows be extended from 1982 to 1987.

    b. A moratorium on funding projects for major repair/rehabilitation of local transport systems (Category III(B)) be put into effect beginning with the FY83 allotment and ending with the FY83 allotment and ending with the FY87 allotment.

    c. Beginning with the FY83 allotments, funding of new collector systems (Category IV(A)) continues to be eligible for municipalities with populations less than 3500 or for larger municipalities where such collector systems are necessary to the fiscal integrity of a treatment works where, and only where, collector systems are required to meet the enforceable requirements of the act.

    d. FMHA provides assistance for collector systems for small communities in the form of an expanded loan program.

    e. Funding for CSO correction remains eligible only where deemed necessary by studies pursuant to the act, or where ordered by a state or federal court.

11. Changes to project eligibility detailed in 10 above should not apply to those projects or specific segments of projects which have approved facility plans prior to October 1, 1981, and which secure approval of plans and specifications prior to October 1, 1983. Industrial cost exclusion effective dates should be changed to be consistent with the changes in grant eligibility. Such projects must be prepared to proceed immediately into Step 3 construction, meeting all requirements for Step 3 grant award. For these projects, exempt from retroactive application of new eligibility requirements, the eligibility requirements of the Clean Water Act of 1977 are applicable.

12. The state management assistance grant (205g) requirements should remain as currently provided, i.e. 2% based on authorized level of construction grants funding or other suitable methodology which assures States receive the approximately $100 million annually required to manage the program.

13. Section 216 of the CWA relative to determination of priority should be modified to give priority to the projects which will achieve significant public health or water quality benefits irrespective of urban industrial nature.

Rationale - A timely, phased reduction in the amount of the federal financial involvement in the construction grants and grant eligibility can result in a more balanced program by promoting greater reliance on state and local capabilities. However, such reduced federal commitment must be accompanied by streamlined requirements and greater flexibility for state and local decision makers. ASIWPCA believes that given sufficient regulatory reform, POTWs will be able to continue to implement cleanup projects. Reduced federal funding also further intensifies the need to establish project priorities at the state level. Each state must address the water quality problems unique to its circumstances as effectively and efficiently as possible. ASIWPCA members are commited to developing sufficient flexibility in terms of eligible needs to cope with the full range of problems to be resolved.

--Mandate that POTW compliance requirements (effluent limitations and schedules) be derived from the approved state strategies

Rationale - The future credibility of the compliance program depends upon improved integration of water quality analysis efforts, construction grants funding and management, and justified enforcement actions. NPDES permits can be used to translate each state water quality management strategy into facility specific enforceable requirements. This approach provides each state the opportunity to closely interrelate water quality based compliance requirements with availability of construction grants funds.

--Assure the Administration's budget does not prevent States from administering their own program or jeopardize completion of previously constructed projects because of grant increases (See Attachment B)

DRAFT RESOLUTION ON PRESIDENTIAL RESCISSION

WHEREAS, the US EPA proposed methods for administering President Reagan's rescission of the Construction Grants Program funds will immediately terminate 201 grant assistance to communities in at least 2 states for a period of up to 18 months, funding will not be available for grant increases to complete construction of on going projects, for phased projects where the first phase has been initiated and for projects for POTWs under court orders or causing existing health hazards.

WHEREAS, the proposed rescission could eliminate all money scheduled to be used for management of a state's program during FY82 with the effect that a state would be forced to turn the construction grants program back to US EPA during that period. This loss of delegation is contrary to the philosophy that a state would control its environment within its own boundary.

NOW THEREFORE BE IT RESOLVED, that the membership of the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) supports the concept that the proposed rescission must not prevent any state from administering its own construction grants program if the state has assumed such delegation and must not jeopardize the completion of previously funded construction projects because of grant increases.

PROPOSED RESOLUTION

Re: US EPA's Definition of Secondary Treatment

BACKGROUND

At the ASIWPCA Mid-Winter Meeting on January 13, 1981, the Association of State and Interstate Water Pollution Control Administrators passed a resolution recommending modification of the US EPA definition of secondary treatment be elimination of the 85% requirement for BOD_5 and SS removals.

This recommendation was based on States' experiences with various types of treatment technology and wastewater collection systems operating under various climactic conditions. It was concluded that the 85% limitation is unrelated to water quality needs and unnecessarily penalizes those municipal systems with high flows and/or cold weather conditions. In some instances, the 85% limitation forces either removal of much more extraneous flows or provision of additional treatment than is cost effective. Furthermore, the same conditions which tend to cause inability to achieve 85% removals also cause conditions within receiving waterways which enhance waste assimilation capability and. therefore, render the 85% limitation much more invalid from a water quality perspective.

At the same Mid-Winter Meeting. the Association referred a proposal for modification of the 30/30 BOD_5 and SS limits to the Construction Grants

Task Force for redrafting. The following is offered for the Board's consideration.

RESOLUTION

The Association recommends modification of the US EPA secondary treatment regulations to recognize the myriad of treatment processes in place and available for municipal wastewater treatment systems, the effect of various climactic conditions, and the actual (as opposed to theoretical) performance of treatment works which have been installed for treatment of municipal wastewater over the past decade. In recognition of these factors, the Association proposes 45 mg/l 30 day average and 60 mg/l 7 day average BOD_5 and SS as reasonable limits for municipal secondary wastewater treatment works to meet on a consistent basis where it can be demonstrated that such limits will not interfere with attainment of water quality standards. However, this limitation should be applied to the entire municipal wastewater flow. Splitting and recombining flows for the purpose of avoiding provision of secondary treatment for a portion thereof should not be countenanced.

RATIONALE

The rationale for this proposal is much as it was for the recommendation regarding the 85% limitation. Artificially high limits force municipalities to provide sewer system rehabilitation and/or treatment plant modifications which are not cost effective and do not reflect water quality needs. The suggested 45 mg/l limitation is one which nearly all those processes which have been considered within the profession as secondary treatment can consistently meet with a well operated plant, given reasonable ambient conditions. Several study findings concluded that the activated sludge plants as a group achieved an effluent quality of 40 mg/l 90% of the time and 20 mg/l 50% of the time.

PRETREATMENT

- Continue EPA development of national categorical standards for pretreatment to only be imposed when states do not elect to use their own program equivalent. The national pretreatment standards, once available, can serve as useful guidance for state and local programs for pretreatment. In addition, possible imposition of these requirements would serve as an added "incentive" to local communities to implement their own program.

- Continue states and POTWS development of baseline industrial survey, characterize POTW influent, effluent and sludge, and design local industrial monitoring programs. These basic program development activities are important building blocks for any pretreatment program whether federally imposed or locally mandated. In view of their importance, these efforts should remain grant eligible. However, grant agreement and permit schedules should be used to drive these pretreatment activities and not mandatory withholding of Step 2 or Step 3 construction grants.

- Over a three year period:
  1) States demonstrate to US EPA, with appropriate technical justifications, which POTWs do not need a local pretreatment program beyond conventional sewer use/user charge and NPDES controls. Many POTWs (especially smaller ones) do not need extensive and expensive pretreatment programs in these instances. Resources should not be wasted attempting to impose the 403 pretreatment regulations. Rather, current program controls are viewed as adequate to control these facilities. The state should develop the technical justifications and US EPA should maintain an oversight oriented role.

2) States have the opportunity to develop program "equivalency" determinations as an alternative to the federal pretreatment program as follows:

   a) "Equivalency" determinations should be based upon state programs which provide adequate end-of-system (i.e. discharges) and interference based controls. Both of which result in specific limitations on tributary industries.

   b) States should develop the methodology for "equivalency" and apply same on a case-by-case basis. US EPA should maintain an over-sight role.

   c) The status of "equivalency" should be periodically reviewed as the NPDES permit for each POTW is scheduled for reissuance.

   d) The federal pretreatment program, including national categorical standards, should not be imposed during this three-year period.

The timing is right to take full advantage of the many locally-based pretreatment programs already in operation. These local programs and workable refinements thereto can be utilized now to move the national pretreatment program ahead at a faster pace.

WATER QUALITY STANDARDS

General: States recommend a simplified, streamlined standards setting process to expedit the development of reasonable standards at minimal costs. Early action will contribute to program stability and cost-effective achievement of the Act's goals without overkill.

Clean Water Act Goals: ASIWPCA and the National Governors' Association recommend extending the 1983 deadline for achieving fishable/swimmable water quality to the year 1990.

§302: Authorize the Governors to initiate the 302 process for evaluating the impact of discharges which may require effluent standards more stringent than BPT to meet Water Quality Standards.

Reasonableness: Revise Section 101 and 303(c) to recognize direct consideration of attainability and affordability in the standards setting process.

US EPA's Role: US EPA's management role must be limited to assuring protection of public health and compatable standards in interstate waters. Standards approval, including varience procedures, should be by State adoption except for interstate waters. US EPA should have a 90 day comment period prior to State adoption. EPA should coordinate Standards for waters with interstate impact, seek resolution of conflict between States and finally, as a sanction for State inaction, promulgate appropriate standards.

Quality/Quantity: Water quality and quantity are important factors which must be considered by States in establishing beneficial stream uses.

International: States must have the opportunity to input Federally negotiated international treaties where States will be expected to enforce and comply with the requirements.

Presumptive Applicability: Eliminate presumptive applicability on paper and in practice. States should have broad flexibility to tailor criteria to meet their local water quality circumstances and economic conditions. While State developed criteria must support the designated uses, they should not have the burden to disprove the Red Book.

Toxics: Toxic criteria adoption should be approached with all deliberate speed, giving full consideration to fate and effect, criteria defensibility, resource availability, and monitoring and analysis capability. States should be encouraged, not required, to adapt such criteria except where public health is endangered.

Guidance: Guidance, technical assistance, and management tools would be helpful to States in determining attainability, affordability, and criteria levels. In the review of Standards, States should be encouraged to consider the adequacy of present policies dealing with:

- mixing zones. particularly for toxics;
- low flow augmentation for water quality enhancement;
- application of antidegradation policies:
- standards for intermittent streams:
- high flow water quality requirements; and
- seasonal standards.

Coordination: Water Quality Standards. Construction Grants, and Industrial controls must be closely coordinated in US EPA policy development, source control, and program operations (i.e. AWT, CSO, and BAT application). An overall toxics strategy for the Water Program and Standards role in the strategy should be developed jointly by EPA and the States.

STATEMENT SUMMARIZED

Ms. SAVAGE. My name is Ms. Robbi Savage, executive director and secretary-treasurer for the Association of State and Interstate Water Pollution Control Administrators. I am accompanied today by our staff attorney, Ms. Lynn Eichmiller.

This organization is a nonpartisan national organization of State administrators responsible for the implementation of the Clean Water Act.

The views of more than 40 States are reflected in the document that you have before you. I have also submitted for the record for the members' review specific information relating to individual member States. Our statistics clearly show that nearly one-third of the States may be forced to turn back delegated functions of the construction grants program to the Environmental Protection Agency.

At least five States—Arizona, California, New Hampshire, South Dakota, and Vermont—will be forced to run out of 205(g) money by the beginning of fiscal year 1982. An additional 10 States will come to a virtual standstill at the first quarter of the fiscal year if no management money is appropriated. States are watching their Federal support being obliterated, yet we see no program reforms that will lessen the burden to States or municipalities. No construction grant projects funding in fiscal year 1982 will bring the sewer grant program to a virtual halt in 40 States and force local communities to live within unkept commitments which State and Federal officials have made, which will erode the credibility of this program further, even further.

Under section 106, State programs grants will support the total water program administration, except for construction grants, which is requested at the fiscal year 1981 level of $52.2 billion. Even at this amount, there is significant cut in the real support to the States because of inflationary erosion.

Governors and their professional water quality representatives agree that the concept of trimming the Federal budget is an important one and recognizes that the water quality program, simply because of its capital investment program, is a prime target for reductions. However, abrupt change can devastate this most complex program. States and locals need the adequate transition phase to adjust to their existing statutes and time to develop the necessary staff and budgetary resource capabilities to adequately manage water quality programs at the State levels.

I appreciate having the opportunity to address the committee and if there are any questions, we can answer them.

Mr. BERGER. You mentioned the impact on the States of no additional 205(g) funding. It may be that we will not receive a request for the $2.4 billion in time to include it in the regular fiscal year 1982 bill, which may be acted on before the August recess. Have you or your organization estimated the dates at which various States would run out of money without additional funds?

Ms. SAVAGE. We have five States that will run out of 205(g) money by the beginning of fiscal year 1982; an additional 10 will run out sometime in the early part of the fiscal year.

Mr. BERGER. Are the lists of those States included in your testimony?

Ms. SAVAGE. Yes; they are.

Mr. BERGER. Do you have anything further to add?

Ms. SAVAGE. Only that we would like to work with the committee to secure at least adequate funding to keep the program going, or if that, in fact, does not come about, then we want to work with the authorizing committees to see that legislation can accommodate the funding decisions.

Mr. BERGER. Thank you very much for your testimony.

NATIONAL SCIENCE FOUNDATION

STATEMENT OF REV. T. BYRON COLLINS, S.J., SPECIAL ASSISTANT TO THE PRESIDENT OF GEORGETOWN UNIVERSITY, REV. TIMOTHY S. HEALY, S.J.

ACCOMPANIED BY REV. HAROLD BRADLEY, S.J., DIRECTOR, CENTER FOR IMMIGRATION POLICY AND REFUGEE ASSISTANCE

Mr. BERGER. Next we will hear from Father Collins.

I see he arrived just in time for his testimony.

Father COLLINS. Good morning, Mr. Berger.

With me is Father Bradley, who will address our international programs. We will be very brief.

Mr. BERGER. Let me reiterate something that I had mentioned at the beginning of the hearings; that is, that Senator Garn is presently at the White House attending a Republican leadership meeting and expects to be back around 10:15. He apologizes for not being here.

Father COLLINS. I am sorry the Senator is not here. The hearing, however, is in capable hands.

We have a problem at Georgetown University that arises from two factors in which we are engaged.

Father Bradley will present the factors and the problem, and then we have a proposal for a solution.

PROBLEM OF SECONDARY MIGRATION

Father BRADLEY. I am director of a center at Georgetown called Center for Immigration Policy and Refugee Assistance. In that work, on several occasions it has come to my attention that the most serious problem we have with the refugees right now from Indochina is what is called secondary migration. The mayor from San Jose has pointed out that she cannot find out whether she has 20,000 or 30,000 Indochinese refugees in her city. She has to provide health care, education, public assistance for these people, and no agency can tell her how many there are. We have also at Georgetown a Center for Population Research, and I have met with them and I have asked them are there techniques for counting these people. They say, "Yes, yes, you would have to develop the techniques, but we could develop the techniques." As I have gone around to various agencies, I cannot find anyone who is interested in counting these people.

As Mayor Hayes has said, the Federal Government dumped this problem in their lap and doesn't seem to be willing to do anything to even help them deal with the problem.

Father COLLINS. That leads us to the reasons which—and from my experience, I think a brief recitation on to whom the jurisdictions respond will show the problem.

Immigration is under the Department of Justice. The census is under the Secretary of Commerce. The education is under the Secretary of Education. Health is under the Secretary of Health.

Father BRADLEY. Office of Refugee Assistance is in HHS.

Father COLLINS. Right. So there needs to be set up a plan, a method for them to coordinate. It has been tried. The National Science Foundation has a special category to address just this problem on its sector for Federal and State relations and we would like to ask the committee for support under that category.

I don't believe there is any additional funds. We do support the full request for the entire agency, for the National Science Foundation. We would like this committee's support, and our estimate of cost to set the problem up would be maybe $75,000 from NSF and we would probably match that.

It is a serious national problem that we would like to ask the committee's support for.

Mr. BERGER. Thank you.

How much of the funds for the proposal you just described would be associated with development and methodology and how much would be for the application of that methodology; that is, the actual counting procedure?

Father BRADLEY. Almost half and half, because there is no point in developing a methodology without testing it. So the people in our Population Center intend to find some location where they can test out this methodology that they are trying to develop.

Mr. BERGER. What would be the ultimate objective of this proposal and what will you do with the information you gather?

Father BRADLEY. I don't think we have gone that far.

Father COLLINS. I have done a little checking. This is analogous to several Federal programs that are handled by one agency in behalf of a series of them. We would have to be part of the problem; try to find one that naturally would be able to transmit the information to the States.

Mr. BERGER. Have you talked to NSF about this proposal?

Father COLLINS. No, we have not, other than just in passing, to see if they have the program, and would they be interested, and the answer was affirmative, yes, they have the program, they would be interested.

Mr. BERGER. I will bring this to Senator Garn's attention.

Father COLLINS. Thank you very much.

Mr. BERGER. Thank you very much.

The next witness is Mr. Pinkston. Is Mr. Pinkston here? Evidently not.

We will go, then, to Mr. Cooke.

ENVIRONMENTAL PROTECTION AGENCY

STATEMENT OF G. DENNIS COOKE, PROFESSOR OF BIOLOGICAL SCIENCES, NORTH AMERICAN LAKE MANAGEMENT SOCIETY

Mr. BERGER. Welcome to the subcommittee, Mr. Cooke.

Mr. COOKE. Thank you very much, Mr. Berger.

Good morning.

I am Dr. G. Dennis Cooke, professor of biological sciences at Kent State University, and president of the North American Lake Management Society, a society representing lake managers, citizens who live around lakes, scientists, representatives, consultants, and so forth.

We are not trying to make an emotional appeal for conservation or endangered species, or any of those very laudible objectives. We are simply talking about what we believe to be an essential well being of the United States; that is, clean fresh water which subsidizes agriculture, recreation, industry, certainly our cities.

DEGRADATION OF PUBLIC LAKES

About a third of the 40,000 public lakes in the United States are severely degraded. Probably another third are well on their way. A zero 1982 funding for the clean lakes program with EPA would simply signal the beginning of the end of management protection and restoration of these water bodies.

We know of only a few States prepared to take over the task of protecting these water bodies, managing them, restoring them. It is our position, and we are urging the committee to transfer $15 million from the construction grants program to EPA's clean lakes program.

Let me take a moment to tell you something about that program.

It is a very small, nonregulatory, nonexpanding, highly visible, inexpensive, very high benefit-to-cost ratio program. It has its own sunset provision built into it that could provide a clean lake within 25 miles of every major metropolitan area. They currently need $25 million to complete their existing projects and $120 million to reach that goal, a very small amount of money.

A serious study of the program demonstrated that there had been a major benefit of $8.31 for every Federal dollar spent on that program. We know for a certainty that a few States are prepared to implement their own reservoir lake management program.

They don't have the money, they don't have the institutional arrangements, very few of them have the expertise.

We believe that for a very small expenditure, our Nation is going to receive very substantial benefits. Central protection of these resources is essential to our well-being. The track record of this program is excellent. I would simply urge you to divert a small amount of money, $15 million from 1982 for construction to EPA's clean lakes program.

Thank you.

If there are any questions, I will try to answer them.

[The statement follows:]

STATEMENT OF G. DENNIS COOKE, PH. D., PROFESSOR OF BIOLOGICAL SCIENCES, KENT STATE UNIVERSITY

I. Introduction and Purpose of Testimony

I am Dr. G. Dennis Cooke, Professor of Biological Sciences at Kent State University and President of the North American Lake Management Society. The purposes of the Society, which I represent, are to promote the protection, management, and restoration of lakes and reservoirs. We provide information to our members about research and development in the ecology of lakes and watersheds, encourage public support, and give guidance to private and public lake protection and management projects. The Society is growing at a rate of 30 new members per month, and is composed of laypersons, lake managers, consultants, industry representatives, officials of public agencies, and university scientists.

The purposes of this testimony are to inform you of the EPA's Clean Lakes Program, to describe some of its accomplishments and benefits in protecting and restoring our Nation's public freshwaters through a low cost-local initiative program, and to urge you in the strongest terms to reinstate the program into the 1982 budget at a level of $15 million. The Society takes this position, in part, because we know that many of the States are not ready to assume the roles of the Clean Lakes Program in protecting and restoring their public lakes. We suggest that the best source of these funds is the construction grants program.

II. The Clean Lakes Program and the State of Our Nation's Lakes

There are about 40,000 public lakes greater than 100 acres in area in the United States. At least one-third of them are degraded with silt, weeds, and algae. More lakes are added to the list yearly from the combined effects of erosion, treatment plant discharge, storm run-off, and toxic substances. We cannot replace these lakes. They are a national heritage which, once destroyed or degraded, will require billions of dollars to restore and protect. The impact of this pollution on Americans increases as recreational facilities, particularly those in urban areas, become increasingly degraded and as the travel costs to cleaner waters increases. Drought has become severe in several regions of the United States, emphasizing our dependence upon freshwater for the existence of our cities, industry, and agriculture. It is simply imprudent to fail to be absolutely certain that these extremely valuable freshwater resources receive adequate and lasting protection and management. At this time, no other federal and few state agencies are able or prepared to do this.

The purposes of the EPA's Clean Lakes Program are clear: Classify lakes with regard to their degree of degradation, conduct feasibility studies for pollution control and lake improvements, and implement projects to bring about control and restoration. The program has a "sunset" provision: Terminate this program when there is a clean public lake within 25 miles of every major population center and when the States are prepared to carry out continual management and protection. The program is a strictly voluntary and non-regulatory one, which emphasizes local citizen participation and requires local or state matching support. It has been carried out with a small (15 USEPA employees nationwide), non-expanding staff. The Clean Lakes Program is a bargain, returning $8.31 in measured benefits for every federal dollar spent ("Economic Benefits of the Clean Lakes Program.- An Assessment of Economic Benefits of 28 Projects in the Section 314 Clean Lakes Program." 1980. EPA 440/5-80-081).

The policies of the Clean Lakes Program are in strict accordance with our best understanding of lakes and watersheds, and it is the only federal program I know which insists upon support of projects in which the total lake environment is the management unit. This is significant because lake problems, and their solutions, differ fundamentally from those of streams and rivers. Sound, defendable, ecological principles are applied to the operation of projects, and funding preferences are given to projects where a coordinated approach (with other agencies and programs) is emphasized. Not only is the Clean Lakes Program a bargain to the millions of lake users in the United States, but the ecological principles employed in its management bring about lasting improvement and protection of our public lakes.

III. Results and Benefits of the Clean Lakes Program

To date, 47 states have participated, and $70 million have been awarded. The results have been dramatic and the Program has the full endorsement and support of the citizens who have benefitted.

A case by case summary of the projects is inappropriate. I have enclosed a representative sample, that of Medical Lake, Washington (Capsule Report. "Restoration of Medical Lake." 1980. EPA 625/2-80-025). The lake is 15 miles from Spokane, Washington, and for decades has been plagued with so much algae that most contact recreation was halted, and the lake would not support a game fishery due to dissolved oxygen problems. A new technology, developed largely with EPA support, was used to sharply lower the phosphorus concentration in the lake and thus control algae growth. This technique is so effective that the EPA's pilot lake treatments at Twin Lakes, Ohio have remained in excellent condition since the time of their treatment in 1974. Recreational uses on weekends at Medical Lake have increased from fewer than 100 persons to about 1,000, and property values have consequently increased. The lake is now able to support a trout fishery, stocked by the Washington State Department of Game. This success story is typical of the benefits achieved from this federal-local interaction.

Costs and benefits of 16 urban area and 12 non-urban projects have been analyzed as being representative of the "return on investment" from the expenditure of public funds to protect and improve public lakes and reservoirs ("Economic Benefits of the Clean Lakes Program." EPA 440/5-80-081). The benefits were substantial, with a return of $9.64 for every federal dollar spent on an urban lake and $6.19 for non-urban lakes. Many benefits are of course intangible, including the value of citizen participation, the aesthetic improvement, the heightened awareness of environment, and the value to the biota of the lake. As travel costs increase, Americans will increasingly turn to local recreation, and the long-term benefits to these persons are incalculable.

IV. Current Status of Clean Lakes Program Projects

Projects are divided into Phase I (diagnostic-feasibility studies) and Phase II (implementation) efforts, plus the state lake classification work. About 87% of the Program's funds are expended, on a 50-50 matching basis, for Phase II.

At present, there are about 116 Phase I and 114 Phase II projects for which funds have been committed. The implications for zero 1982 funding for the Clean Lakes Program are grim. The expenditures for Phase I will essentially be money wasted in the sense that the projects may never come to fruition, and all the users of the lake will have is a report about its status and problems, and a recommendation for protection and restoration. Without financial support and technical expertise, actual implementation will probably never occur. The Phase II projects will be, in some cases, completed and lake improvement will occur. Many, however, will justifiably require supplementation and all will require technical expertise. If these are not available, projects half completed may be useless. For example, what good is a partially dredged lake if watershed control of erosion is not also accomplished?

V. Can the States Take Over?

There is abundant evidence that only some states are prepared or willing to take over the task of public lake protection, management, and restoration at this time. Some of the states with many lakes and a large water recreation industry, such as Michigan and Ohio, may be less and less able to do so under current economic conditions. We need to continue to have this small but highly effective source of federal support for the states.

A history of the Program is instructive. The Clean Lakes Program was included in the 1972 Federal Water Pollution Control Act as Section 314 for good reasons. Solutions to lake problems are complex, often covering several political boundaries, involving many disciplines, and requiring continual support and expertise. Except for a few northern tier states, most states were not, and are not now, ready to administer such a program, nor ready to enact legislative authority and the necessary appropriations. The States in 1972 welcomed Section 314 as a foundation to build programs, but EPA at the time was so involved with construction, effluent standards, etc. that no appropriations from Congress were solicited. Congress nevertheless recognized the need for the program and authorized $4 million in FY 75, and added $15 million in FY 76 and FY 77 and $3 million in FY 78. The negative role of EPA at this time did not encourage states to build their own programs. In 1978 EPA began to assist the states in developing programs and sought funds from Congress in 1979. This action finally prompted some states to initiate programs, believing that they had federal support. Now these states which have become responsive to the needs of lake users once again face the task of development of legislative and regulative authority without necessary federal guidance, expertise, and support. A zero appropriation simply pulls the rug out from under these embryonic state efforts, and in many cases essentially ends lake management and protection.

At this time, 32 states do not provide matching funds for Clean Lakes grants, requiring local government to do it even though the lake or reservoir to be improved and protected is open to all. While some states may offer in-kind technical services, few have the expertise, resources, or intent to do this, and again the greatest burden is placed upon users in closest proximity to the public lake. In every case, should the burden of public lake protection and management be shifted to state and/or local sources, the expertise of the Nation's best scientists in this discipline will be missing.

The following states, as of August, 1980, have no Clean Lakes Program participation, or provide no state financial support for Clean Lakes projects, or have no other special state programs to assist local governments in lake protection and management ("Clean Lakes Program Guidance Manual." 1980. EPA 440/5-81-003):

1. Alabama
2. Colorado
3. Delaware
4. Illinois
5. Indiana
6. Kansas
7. Kentucky
8. Louisiana
9. Maryland
10. Mississippi
11. Missouri
12. Montana
13. Nebraska
14. Nevada
15. New Hampshire
16. New York
17. Ohio
18. Oklahoma
19. South Carolina
20. Tennessee
21. Texas

The majority of states on this list are there because the state does not offer any financial assistance. Some of these states have recently started to develop the institutional frameworks to administer a program and to provide some technical guidance. They need the federal program to complete this development.

Despite the low level of state financial, legislative, and technical support, the public demand for the Clean Lakes Program is increasing. This strongly supports the belief that Americans want and need clean lakes and reservoirs for recreational, domestic, and industrial purposes, and that they expect federal help in the form of the Clean Lakes Program. The public demand, measured as applications for support, is now double the FY 1981 appropriation to the Program. At this writing 25 eligible projects have not been funded.

VI. Summary

Public demand for acceptable recreation is very high and is increasing. Clean lake and reservoir waters are at the heart of this demand. The EPA's Clean Lakes Program now has more requests for funding than there are funds available.

The Program has been successful, has not generated a bureaucracy, is entirely voluntary and without complicated regulations, and has brought great benefits and pleasure for the money expended. There have been well over $8.00 in measured benefits for every dollar spent. Our Nation's lakes have suffered tremendously from cultural pollution and at least one-third of them are degraded. Many others are now deteriorating. This Program is an example of the best in federal involvement with the state and local problems of our citizens. At this time only a few of the states are able to take over this work.

The North American Lake Management Society proposes that funds to continue the work of the Clean Lakes Program should be from construction grants. If 0.06% of these funds are appropriated for Clean Lakes, it would restore funding to about the current level and will maintain our essential efforts to protect, manage, and restore these priceless public treasures. We ask that the Committee make this recommendation.

Thank you for your consideration.

QUESTIONS ASKED OF EPA CONCERNING THE CLEAN LAKES PROGRAM

1. In the subcommittee hearings EPA stated that the States would be taking over the responsibilities of the Clean Lakes Program. In a follow-up question. Congressman Boland asked, "Are the States willing and able to take on Clean Lakes?"

In February, the Association of State and Interstate Water Pollution Control Agencies invited States to submit testimony on the impact of budget cuts on environmental programs. Despite elaborate clearance proceedures, some twenty States provided testimony. Here is what they said about Clean Lakes:

Connecticut "Under the Section 314 Clean Lakes Program, the Connecticut DEP lakes management program has been able to make significant progress in the past two years. Accomplishments include an inventory of the trophic classifications of seventy major recreational lakes, the prioritization of lakes for grant purposes, ... A reduction in funding will hamper future program development. Activities which would be immediately jeopardized are the development of restoration/preservation projects for five phase I studies which have been completed or will be completed by the end of 1981, and the development of additional Phase I studies. Connecticut would not continue the program in the same manner without federal funding."

Vermont "The State of Vermont has used the 314 program extensively to address aquatic nuisance problems within the state. With the termination of Section 314 funds the program will proceed with such resources as can be made available at the State and local level. Severe budget restriction in the State have precluded the State from increasing its share of funds in the recent past and we do not expect this to alter significantly in the foreseeable future. Severe limitations will be placed on our efforts,..."

Colorado "Until this grant became available, all of Colorado's efforts, because of limited resources, were directed towards the study of streams. The availability of these funds has given us the opportunity to assess the quality of some of our lake and reservoirs.

Plans can then be formulated to correct the further degradation of these bodies of water. One of the five [plans] is expected to advance to Phase II in 1981. To withdraw funds, at this time, would leave us no way of implementing them."

South Dakota "In regard to the effects of the proposed 0 FY'82 funding levels for 208 and 314, the most immediate affect will obviously be no new starts in correcting non-point source pollution problems. This is unfortunate from the standpoint that much hard work has been done in order to get several projects to the point of proceeding either into project formulation or implementation, and major commitments obtained form local residents will now be for naught. Also, the momentum that has been successfully developed in the nonpoint source control activities will be lost. ... A number of projects now in progress will not finish implementation activities for 2 or 3 years."

North Carolina "North Carolina has a lakes classification grant. This grant will allow us to build a base for detailed study and restoration. If there are not study and restoration funds, the objective of Section 314 cannot be met."

Utah "If funds are cut for such programs as 208 and Clean Lakes, the State is not in a position to fund the continuation of these programs at the previous levels. ... [Three phase I] studies have just been initiated. There has been significant local support and participation in developing work plans to address these very difficult water quality problems. Without federal support, there is no question that such studies would not be initiated."

Kansas "...Kansas, as a semi-arid plains State, has a relatively small number of man-made lakes, and programs to protect and/or restore these lakes have a high degree of public support. Six Clean Lakes Projects are now underway in Kansas. Continuation of the program will benefit many people, will contribute to water pollution control, and is relatively inexpensive."

Iowa "This program (Section 314-Clean Lakes) has...been closely coordinated with our nonpoint funding programs. Beyond actual projects for lake restoration, the Clean Lakes Program has fostered the first comprehensive review of water quality in Iowa's lakes as well as establishing a priority system for determining which work to fund based on public benefit, water quality impact and potential effectiveness of restoration. As a part of our overall soil control/water quality effort and as an actual implementation activity, we strongly support this activity.

2. What level of funding is needed to complete existing Clean Lakes projects?

This question has two answers. The simple answer is that $26,078,000 would be required over the next three years to complete the exisiting implementation projects. See chart below.

It is tougher to answer this question if one includes all the cities and communities that undertook a Phase I diagnostic/feasibility study in good faith ...as the first step toward a restoration grant. In order for EPA to meet the demands of those cities and communities who have already committed their own local financial resources in the form of a Phase I study, approximately $50 million will be needed.

FUNDS NEEDED TO COMPLETE EXISTING CLEAN LAKES IMPLEMENTATION PROJECTS

STATE	PROJECT NAME	DATE AWARDED	FUNDING REQUIRED TO COMPLETE
ME	Cobossee 2	7/80	$ 125,000
ME	Sabattus Pond	4/80	50,000
CT	Bantam	5/80	200,000
CT	Warramug	12/79	100,000
MA	Cochituate	8/76	200,000
MA	Dunn Pond	1/81	200,000
MA	Lashaway	1/81	50,000
MA	Nutting	5/77	100,000
MD	Loch Raven 2	1/81	8,620,000
VA	Rivanna Reservoir	1/81	2,000,000
IL	Frank Holton	3/77	500,000
MN	Clearwater Chain	5/80	100,000
MN	Long Lake	12/76	200,000
MN	Moore	5/80	20,000
MN	Phalen	1/77	50,000
WI	Elk Creek	1/81	25,000
WI	Little Muskego	1/76	2,000,000
WI	Marinuka	5/80	50,000
WI	Upper Willow	5/80	100,000
MI	Lansing	4/76	170,000
CA	Gibraltar	4/78	1,000,000
CA	Tahoe	1/81	3,218,916
WA	Ballinger	3/78	200,000
WA	Moses	8/76	2,500,000
WA	Sacawawea	1/78	300,000
WA	Vancouver	8/78	4,000,000

3. How much funding would be required to complete the goal of the Clean Lakes Program?

The Clean Lakes Program established a goal to protect at least one lake whose water quality is suitable for contact recreation, or to restore a degraded lake to that condition within 25 miles of every major population center. Of the 280 Standard Metropolitan Statistical Areas (SMSA), 64 have ongoing lake restoration projects. An additional 63 SMSA communities have the first phase of a restoration project underway.

In order to achieve the stated goal, 153 new implementation projects need to be initiated. The total cost over the next five years to achieve this goal would be $123.3 million. The chart below explains:

Cost of implementing the ongoing Phase I recommendations.	$31.5 million
Cost of Diagnostic/feasibility studies and restoration projects for the remaining 153 SMSAs..........	$91.8 million
Total.....	$123.3 million

Note: Federal costs are estimated to be $100,000 for a diagnostic/feasibility study, and $500,000 for an implementation award.

COMMITTEE STRONG SUPPORTER OF CLEAN LAKES PROGRAM

Mr. BERGER. As you know, this committee, under its former chairman, Senator Proxmire, was a very strong supporter of the clean lakes program and basically for the reasons that you note about the cost-benefit aspect and the ability of some of the States, or lack thereof, to implement the program on their own. Looking to the future, that is beyond the actions that the committee might take this year, what do you see the activities of the clean lake program will be?

PROVISION OF FEDERAL STRUCTURE

Mr. COOKE. We would do two things. Whatever we may do this year, the future, in my opinion, is that we have got to maintain funding sufficient to meet this so-called sunset provision; that is, to provide clean water within 25 miles of major metropolitan areas. But the most important thing is to provide a Federal structure which will allow States to provide the institutional arrangements they will need to continue this program on their own.

Right now, they don't have it, primarily because this program has gone up and gone down and gone up and gone down and their belief in where it exists is very small. So I find that that may be as compelling a reason as any. We need to get the States on their own with this.

Mr. BERGER. Does EPA now have a list that shows projects that are currently underway and need additional funds in order that they can be completed?

Mr. COOKE. Yes.

Mr. BERGER. You do not have that list in your testimony?

Mr. COOKE. No. My testimony indicates how much it would cost to complete that without providing the list of the lakes in the States.

Mr. BERGER. Do you have any idea how many lakes are on that list?

Mr. COOKE. No. I don't.

Mr. BERGER. We will get that information from EPA.

Mr. COOKE. It is not a large number. If you are talking about Lake Tahoe, that is going to be a very expensive protection restoration project, so the lake number is not large. It is the type of lake that may be involved. The drinking water reservoirs in this area of the country are large; they are surrounded by big agricultural areas and they are pretty exposed. So it doesn't take many lakes to eat up what is involved here.

Mr. BERGER. In your belief, is the $15 million level a sustainable level of activity over the next few years?

Mr. COOKE. Yes.

Mr. BERGER. Thank you very much for your testimony.

STATEMENT OF J. ROBERT NICHOLSON, BOARD OF DIRECTORS AND CHAIRMAN, WATER AND WASTEWATER EQUIPMENT MANUFACTURERS ASSOCIATION, INC.

ACCOMPANIED BY JOHN SCHEER, EXECUTIVE DIRECTOR

Mr. BERGER. The next witness is Mr. Robert Nicholson.

Mr. Nicholson, could you please introduce your colleague for the record.

Mr. NICHOLSON. My colleague is John Scheer, executive director of the Water and Wastewater Equipment Manufacturers Association.

My role is the presiding chairman of the public affairs committee.

CONSTRUCTION GRANTS PROGRAM

We are here today to discuss the views of the Water and Wastewater Equipment Manufacturers Association concerning appropriations for the fiscal year 1982 construction grants program. WWEMA is an association of approximately 200 companies that develop technology, manufacture and supply equipment, materials, and services to the water and wastewater industry. Equipment manufacturers currently employ nearly 25,000 people and provide equipment which accounts for virtually 20 percent of the total dollars spent under the Clean Water Act's municipal construction grants program and an equal amount of industry.

The Clean Water Act of 1972 motivated WWEMA's members to allocate more resources to the pollution abatement industry. Traditional suppliers of wastewater equipment invested in larger and more efficient facilities. New and more cost-effective technology became available. In short, our industry and investors responded in the best tradition of free enterprise to fulfill the goals of the law established by Congress.

Since 1972, Congress has consistently appropriated less than the authorized level of funding. The result has been a lack of continuity and predictability in the program. This has caused a reduction of approximately 25 percent in the number of suppliers since 1976. The outlook for the industry is getting worse. Business opportunity in water and wastewater equipment in 1979 and 1980 was less than one-half of the level of 1977 and 1978 when compared in real dollars. Many leading manufacturers have withdrawn completely from the marketplace, with others withdrawing from major segments of the business. The result is a rapid turnover of equipment suppliers in the industry, resulting in reduced equipment quality and technical innovation.

Congressional funding certainty is nearly as important as the level of dollars appropriated. Yearly appropriation approval is often delayed to very late in the budget process. This contributes to additional program uncertainty and inability for equipment manufacturers to plan properly.

We have about nine recommendations on appropriations. We recommend that Congress appropriate $2.4 billion for fiscal 1982, and also that Congress set a deadline for the ending of the funding of this program.

Of course, this date then should be consistent with the needs to meet the requirements of the Clean Water Act, based on constant 1980 dollars. A reduced funding level from the authorized level previously passed by Congress should be approved only if eligible project categories are limited and based on present population.

We also urge the passage of two-tier funding legislation. It made it through the House the last session. It never got into the Senate bill schedule.

The other recommendation is WWEMA opposes the rescission of EPA construction grants funds for fiscal years 1980 and 1981.

Five, we favor the gradual elimination of Federal funding for step I and step II in the grants process. We feel that would streamline and expedite the review process. However, for projects that have been already approved, we should continue the 75-percent funding level at steps I and II. We recommend that the EPA project review be reduced to monitoring oversight and an audit role which means more State delegation.

INCREASED ROLE FOR STATES

The States are closer to the problem. They can handle the deviations in the construction grants program for local conditions.

Reduce the Federal share of funding to a maximum of 50 percent for step III. This should be done over a 3-year period, transition period.

We also recommend an examination of long-term funding alternatives after the deadline, or the sunset of the program. The alternatives would include such things as loan programs.

The last recommendation is the extension of innovative/alternative program through fiscal year 1982 and beyond.

Attached to our official testimony is annex A, which is our position as the manufacturers on innovating alternatives. In essence it says we would like to have an 8-year extension of the program. Therefore, it would give us time to invest in innovative processes and sell them and get a return on our investment.

PREPARED STATEMENT

WWEMA believes that the municipal construction grants program has done a great deal of good in reducing the Nation's water pollution. We have attached to our official testimony some information reports by the Government. One is the President's Commission on Clean Water, various annual reports, the President's Council on Environmental Quality, and there is a special CEQ report on benefits received from the program.

That, Mr. Chairman, is basically our testimony.

[The statement follows:]

STATEMENT OF J. ROBERT NICHOLSON, BOARD OF DIRECTORS, WATER AND WASTEWATER EQUIPMENT MANUFACTURERS ASSOCIATION, INC.

Mr. Chairman and members of the subcommittee, I am J. Robert Nicholson, Zimpro, Inc., currently serving on the Water and Wastewater Equipment Manufacturers Association, Inc. (hereinafter - WWEMA) Board of Directors and presiding Chairman of WWEMA's Wastewater Public Affairs Committee. Accompanying me here today is John Scheer, WWEMA's Executive Director. We are here today to discuss the views of WWEMA concerning appropriations for the (FY) 1982 Construction Grants Program. WWEMA is an association of approximately 200 companies that develop technology, manufacture and supply equipment, materials and services to the water and wastewater industry. Equipment manufacturers currently employ nearly 25,000 people and provide equipment which accounts for virtually 20 percent of the total dollars spent under the Clean Water Act's municipal Construction Grants Program and an equal amount to industry.

The Clean Water Act of 1972 motivated WWEMA's members to allocate more resources to the pollution abatement industry. Traditional suppliers of wastewater equipment invested in larger and more efficient facilities. New and more cost-effective technology became available. In short, our industry and investors responded in the best tradition of free enterprise to fulfill the goals of the law established by Congress.

Since 1972, Congress has consistantly appropriated less than the authorized level of funding. The result has been a lack of continuity and predictability in the program. This has caused a reduction of approximetely 25 percent in the number of suppliers since 1976. The outlook for the industry is getting worse. Business opportunity in water and wastewater equipment in 1979 and 1980 was less than one half of the level of 1977 and 1978 when compared in real dollars. Many leading manufacturers have withdrawn completely from the marketplace with others withdrawing from major segments of the business. The result is a rapid turnover of equipment suppliers in the industry, resulting in reduced equipment quality and technical innovation.

Congressional funding certainty is nearly as important as the level of dollars appropriated. Yearly appropriation approval is often delayed too very late in the budget process. This contributes to additional program uncertainty and inability for equipment manufacturers to plan properly.

Specifically, WWEMA recommends the following:

1. That Congress appropriate $2.4 billion for FY 1982. Also, that Congress set a deadline for the end of funding of the Construction Grants Program. This end date should be consistant with the needs to meet the requirement of the Clean Water Act in constant 1980 dollars.

2. A reduced level of funding from the authorized level previously passed by Congress should be approved only if the eligible project categories are limited and based on present population.

3. WWEMA urges passage of Two-tier funding legislation as an incentive for fast-moving states. "Two-tier" encourages state and local efficiency in the Clean Water Program.

4. WWEMA opposes the rescission of the EPA Construction Grant funds for 1980 and 1981, which is being proposed by the Administration. Congress, in its past appropriations for the program, was far below authorized levels, causing industry to withdraw much of its expertise and resources. Now with the rescission request, industry is being asked to again lower its resources and commitment to this program.

5. Gradually eliminate federal funding for new planning (Step I) and designs (Step II) to streamline and expedite the review process. Continue federal funding at the 75 percent level for Step I and II projects that have already been approved.

6. Reduce EPA project review to a monitor and audit role.

7. Reduce the Federal share of funding to a maximum of 50 percent for Step III. This should be accomplished on a graduated basis over a 3 year period.

8. Examination of long-term alternatives to the Construction Grants Program such as "loan programs."

9. Extension of Innovative/Alternative program through FY 1982 and beyond. (See Annex A)

WWEMA asserts that the Clean Water Act's municipal Construction Grants Program has done a great deal of good in reducing this nation's water pollution. We believe EPA's administration has been reasonably good considering the legal complexity and economic uncertainty surrounding the program. In the overall consideration of the Clean Water Program by Congress, WWEMA respectfully suggests that an examination be made of the much broader national benefits being derived from the program. These benefits have been addressed in the following Government reports:

- President's Commission on Clean Water
- Annual reports by the President's Council on Environmental Quality
- Benefits of Air and Water Pollution Control prepared by the President's Council on Environmental Quality

This latter report (Annex B) attributed the benefits of water pollution control to range from $6.5 to $25 billion annually, with the average cost benefit around $12 billion annually. Predictable Congressional appropriation and minimum legislative changes, will go a long way toward streamlining the Construction Grants Program and making it more cost-effective.

Thank you for the opportunity to present WWEMA's position.

POSITION ON
INNOVATIVE & ALTERNATIVE TECHNOLOGY
UNDER THE CONSTRUCTION GRANTS PROGRAM

Water and Wastewater Equipment Manufacturer's Association Position on Innovative and Alternative Technology Under the Construction Grants Program

The Water and Wastewater Equipment Manufacturer's Association is an organization of 250 firms supplying equipment and services to the water and wastewater market. These firms are major contributors to the improvement of the technology for treating the Nation's water and wastewater and support a greater consideration of the use of innovative and alternative technology in the Construction Grants Program.

We support the practice of the use of professional judgment of an independent engineer in evaluating, costing and deciding upon the best methods of treating a specific water or wastewater, subject to the appropriate legal and regulatory requirements.

From this perspective, we hope to support an Innovative and Alternative Technology Program, and, while we see some problems in the present program, we hope to make a positive contribution to the effort.

First, we all know that the regulations published in late 1978, require that for any part of a wastewater treatment plant to be considered innovative, there must be a cost savings of 15% or an energy savings of 20% across the treatment works. With most wastewater plants treating more than a few million gallons a day and being more than a one unit process, there is a significant problem in finding a process or even two processes in many cases that can contribute a 15% cost reduction or a 20% energy reduction to the whole works. Simple arithmetic shows that if a plant consists of only two unit processes of equal cost and one of these processes is to be evaluated as innovative, that process must itself save 30% in cost or 40% in energy across the treatment works.

We would propose that the regulations be altered so that the innovative and alternative evaluation be based on a unit process used in the treatment works for treating, recycling or disposing of the waste stream or a by-product of the treatment of the waste stream. This would require that the process be an improvement in the actual process treatment rather than improvement in brick and mortar buildings and other appurtenances. We believe that this modification to the regulations would significantly increase the number of projects that utilize innovative and alternative technology and insure that the innovative and alternative funds are not spent on systems and equipment that, while they may be new, do not improve or enhance the treatment of wastewater.

The set-asides for I & A funding are set to expire in 1981, with the possibility of the funds being extended to 1982 or 1983. For a commercial firm to bring a new or improved product to the market takes from 4 to 7 or 8 years. If this program is to be an inducement to manufacturers to spend money and develop new and improved technologies, the life of the program should be extended for a minimum of 5 years.

The Water and Wastewater Equipment Manufacturers Association supports the Innovative and Alternative Technology Program as a welcome addition to the Construction Grants Process.

THE BENEFITS OF AIR AND WATER POLLUTION CONTROL: A REVIEW AND SYNTHESIS OF RECENT ESTIMATES

by

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A report prepared for
the Council on Environmental Quality

December, 1979

EXECUTIVE SUMMARY

Introduction

Perhaps the most important economic aspect of environmental regulation is the relationship between the benefits and the costs of regulatory policies. It is the purpose of this study undertaken for the Council on Environmental Quality to shed some light on the benefits associated with federal air and water pollution control programs. This is not to be done through the collection of new data or the estimation of a further set of statistical relationships between environmental improvements and physical or economic well-being. Rather, this report is an attempt to review and synthesize the large number of previous studies of the benefits from air and water pollution control.

The report has four major objectives. The first is to provide a critical review of those previous studies which have attempted to estimate air and water pollution control benefits in monetary terms or which might provide an empirical basis for making such an estimate. This review evaluates the theoretical framework underlying each of the estimates, the validity of the estimation technique, and the adequacy of the data.

The second objective of this report is to explain why previous studies have come up with such different estimates of the benefits arising from air and water pollution control policies. Briefly, there are four reasons. First, the various studies have not expressed the monetary benefits in dollars reflecting the same price level. Next, these same studies have used different base periods for environmental and socioeconomic conditions; more importantly, they have based the benefit calculations on very different assumptions about environmental improvements.

Third, the previous studies have resulted in conflicting estimates of the physical effects of pollution, for example, dose-response relationships linking air pollution and human health. Finally, previous studies have assigned quite different monetary values to improvements in human health or other favorable effects of environmental policy.

In view of these differences, the third objective of this study is to recalculate benefit estimates whenever possible on the basis of a common set of assumptions concerning price level, base period, degree of cleanup, and imputed values so as to compare the different estimates of air and water pollution control benefits. Such a standardization isolates differences in the underlying physical relationships identified in the studies.

The fourth objective is to synthesize the results of the various studies reviewed and present "best judgment" estimates of benefits based on available evidence.

The first three objectives involving the review and comparison of previous studies are quite technical and comprise the bulk of this report. These results are difficult to summarize, and little more will be said here about the details of the individual studies surveyed and their strengths and weaknesses. The rest of this summary is devoted to the synthesis or best-judgment estimates, including a discussion of how they were derived.

First, the study presents upper and lower bounds for the estimates of air and water pollution control benefits. This range reflects the uncertainty and possible error in the estimates of various categories of benefits in the studies. The range of uncertainty in some cases is quite substantial -- high and low estimates of benefits frequently differ by a factor of ten. No formal probability framework was employed in establishing these upper and lower bounds. Rather, they reflect the author's expert judgment that there is a roughly ninety percent chance the true value lies within the range.

The study also presents what are called "most reasonable point estimates" for the various categories of benefits. These are averages of existing estimates weighted by the author's judgment concerning the validity and reliability of the various estimates. Where two or more studies appear to be equally reliable, most reasonable point estimates were derived by averaging the values of the various studies. However, where one benefit study seems to be superior to others in terms of quality of the evidence, it was given greater weight in the derivation of the most reasonable point estimate.

The reader should be careful not to use the most reasonable point estimates without also citing the upper and lower bounds. If stated alone, the most reasonable point estimates might convey a false sense of accuracy or certainty about inherently inaccurate and uncertain values.

Air Pollution

The estimates of the benefits of air pollution control are based on 1978 population and economic conditions. On the basis of EPA data on air quality trends, this study assumed an average improvement of 20 percent in air quality as measured by ambient concentrations of total suspended particulates and sulfur oxides. CEQ analysis of data on the number of days on which national photochemical oxidant standards were violated provided the basis for some assumed improvements in oxidant levels for the nation.

The study examined estimates of air pollution control benefits in the categories of improvements to human health, reduced soiling and cleaning costs for households, reduced damages to vegetation and crops, and reduced damages to materials. It also reviewed estimates of air pollution control benefits derived from studies of property value differences. Property value measures will tend to capture benefits in some or all of the above four categories. Thus to add them to the other measures would likely involve double counting. However, the property value measures may also capture aesthetic values which are not included in any of the above categories. On the basis of a survey of households in Los Angeles conducted by David Brookshire and others at the University of Wyoming, it was estimated that 30 percent of property value benefits were the result of improvements in aesthetic values and should be added to the benefit estimates in the other categories.

On the basis of these assumptions, this report concludes that the total national benefits which have been realized from reductions in air pollution since 1970 lie in the range from roughly $5 billion to $51 billion per year. The most reasonable estimate of the annual benefits of air quality improvements being enjoyed in 1978 is $21.4 billion.

Several points should be made about these estimates. First, they represent only to the benefits associated with realized improvements in air quality since 1970. If, as many believe, the Clean Air Act has not only resulted in improved air quality over 1970 levels, but has also helped prevent further degradation, "true" benefits are larger than the totals presented in this report. Therefore, to the extent that the range and most reasonable point estimate of air pollution control benefits ignore degradation prevented, they should be viewed as quite conservative.

Next, no previous studies have attempted to assess the benefits in other countries resulting from air pollution control in the United States. Because of trans-boundary air pollution, it is likely that both Canada and Mexico have enjoyed benefits in one or more of the categories identified above. Yet these are not included in this report.

In addition, while this report discusses several estimates of the benefits of increased visibility, these were not sufficient to form the basis for an estimate of the national benefits of improved visibility. Hence, these are omitted from the totals presented in the report.

Finally, the estimates are based on an assumed uniform improvement in air quality across the nation. In actuality some areas have enjoyed substantial improvements in air quality while other areas have experienced stable or in some cases deteriorating air quality. A more accurate estimate of national benefits would be one based on separate estimates of the benefits in each region associated with actual air quality experience there and conditioned upon each region's specific socioeconomic conditions. These regional totals would then be added to obtain a national aggregate benefit estimate. For some categories of benefits, the data necessary for this type of calculation are available. However the time and resources available to this study did not permit using this more detailed approach.

The benefits of reduced mortality resulting from reduced concentrations of suspended particulates and sulfur compounds account for 65 percent of the most reasonable point estimate of air pollution control benefits. The inclusion of morbidity reductions due to pollution control brings total health benefits to 80 percent of total air pollution control benefits.

Because the mortality benefits are such an important component of the total and because their estimation provides a good example of the difficulties encountered throughout this study, it is useful to describe in a little more detail how they were derived.

The estimate of mortality benefits is based on two key assumptions. The first is the change in mortality associated with the given change in pollution levels. The second is the monetary value to be attached to reductions in mortality. It proved most convenient to state the relationship between air pollution and mortality in the form of an elasticity (or percentage change in mortality for a given percentage change in air pollution) computed at the average values for the two variables. This report to CEQ examined studies of the air pollution-mortality relationship by ten different sets of authors. Many of them reported elasticities or the elasticities could be computed from their reported data. Most fell in the range of .01 to .1. This range was taken to be the lower and upper estimates of the effect of air pollution on mortality and the study took .05 to be the most reasonable point estimate.

However, it should be noted that there is a good deal of controversy surrounding these studies. The major issues concern the validity of air quality data from one or a few monitoring sites in each urban area as measures of the current exposures of the individuals residing in that area; the validity of current exposures as a measure of the long term exposure history relevant to explaining chronic effects and mortality; and the adequacy of control for such factors as age, socioeconomic conditions, smoking, diet, and exposure to other environmental health hazards. More research is being done on the connection between air pollution and health and it is to be hoped that the degree of uncertainty surrounding this critical relationship will be reduced.

The monetary value of reduced risk of mortality was based on individuals' apparent willingness to pay to reduce risk rather than on an opportunity cost or foregone earnings approach. After reviewing estimations of risk valuation by Acton, Blomquist, Jones-Lee, Smith, Thaler and Rosen, and Viscusi, $1 million (in 1978 dollars) was used as the value of a statistical life. Readers of the report are free to choose other values for reduced mortality and to compute benefits accordingly. And those unwilling to engage in the exercise of imputing monetary values to reductions in mortality rates for populations at risk can still utilize the estimates of the reduction in mortality derived in the report. Based on results from previous studies, this report finds that between 2780 and 27,800 lives are saved per year as a result of air pollution control. The most likely number is 13,900.

Presented in Table 1 is a summary of the ranges and most reasonable point estimates for the various categories of air pollution control benefits analyzed in previous studies.

Water Pollution

For several reasons, water pollution control benefits are much more difficult to estimate than those arising from air pollution control.

First, there are many more indicators of water quality. Even in a particular water body, these indicators may take on very different values depending on the time and location of sampling. Since there is such a large number of water bodies and stream segments in the country, it is very difficult to make summary statements about water quality levels for the nation as a whole and how they have changed as water pollution has been reduced. Thus it is not possible to characterize in a very simple way the aggregate change in water quality resulting from federal law.

Second, the principal legislative tool for reducing discharges in the federal law is the effluent limitations required of point sources of pollution. Almost all previous studies of water pollution control benefits have focused on the beneficial effects of controlling discharges of the so-called conventional pollutants from point sources -- e.g., municipal waste treatment plants or industrial facilities. But in many water bodies non-point sources such as urban or agricultural run-off are significant contributors to degraded water quality. Estimation of the benefits of controlling non-point sources is made difficult both because of the lack of information on the effects of non-point source pollution on water users, and because of the difficulty in predicing the degree of control which is likely to be imposed on non-point sources. Therefore, any benefits that may result from the control of non-point sources, for example under §208 of the Federal Water Pollution Control Act (The Clean Water Act), are not included in previous estimates or in the synthesis estimates presented in this report.

There is an additional and important difference between the air and water benefit studies. The latter almost all estimate the annual benefits to be enjoyed beginning in 1985 when both stages of the Clean Water Act (the so-called BPT and BAT requirements) are to have been completed. However, since these previous studies do not estimate the benefits associated with each of these two stages, they do not permit a calculation of the benefits to be realized in 1978 or any other intervening year. Rather, the water pollution control benefits identified in this report are those to be enjoyed beginning in 1985.

The synthesis of previous studies presented in Table 2 below yields an estimate of the lower and upper bounds of water pollution control benefits of about $6.5 billion to almost $25 billion per year. The most reasonable point estimate of the benefits to be enjoyed by 1985 is $12.3 billion per year.

Over half of this total is attributable to improved water-based recreation. Another significant category is non-user benefits. These include enhanced esthetic appeal, option demand, improvements in residential property values near water bodies and reduced damage to ecological systems from conventional pollutants.

There is a very important respect in which the snythesis estimates presented in this report might understate considerably the true water pollution control benefits to be enjoyed in 1985. As indicated above, prior studies have dealt exclusively with removal of the conventional pollutants like fecal coliform bacteria, biochemical oxygen demand, etc. Yet the 1977 Amendments to the Clean Water Act redirected attention to the control of 65 toxic pollutant categories originating in 27 industries. The damage these pollutants cause to shell fish beds, commercial fisheries, and other aquatic ecosystems -- and hence the benefits arising from their removal -- was not included in earlier studies, and hence is not reflected in the totals in this report. Nor do the estimates presented here take account of the possible effects on human health of organic chemical or heavy metal contamination of drinking water. In fact, several studies cited in this report identified such a link. Nevertheless, they did not provide a sufficient basis on which to derive quantitative estimates of potential health benefits due to the removal of these contaminants. The exclusion of these two potentially very important categories of benefits must be considered in interpreting this report.

* * *

This report makes two points quite clear. First, in spite of recent advances, the estimation of certain kinds of environmental benefits is still in need of much additional refinement. The development and acquisition of data in a number of important areas will be one key to this refinement. Second, where state-of-the art analyses of environmental benefits have been undertaken -- as exemplified by the studies reviewed in this report -- they strongly suggest that environmental protection is good economics.

TABLE 1

Air Pollution Control Benefits Being Enjoyed in 1978
(In Billions of 1978 Dollars)

Category	Realized Benefits	
	Range	Most Reasonable Point Estimate
1. Health		
A. Stationary Source Mortality	$2.8 - 27.8	$13.9
Morbidity	$ .29- 11.5	2.9
Total	$3.1 - 39.3	$16.8
B. Mobile Source	$ 0 - .4	.2
Total Health	$3.1 - 39.7	$17.0
2. Soiling and Cleaning	$ .5 - 5.0	$ 2.0
3. Vegetation		
A. Stationary Source	0	0
B. Mobile Source	$ .2 - 2.4	$ .7
Total Vegetation	$ .2 - 2.4	$ .7
4. Materials		
A. Stationary Source	$ .4-1.1	$.7
B. Mobile Source	.1- .3	.2
Total	$ .5-1.4	$.9
5. Property Values		
A. Stationary Source	$ .9-6.9	$ 2.3
B. Mobile	$ .2-2.0	$ .4
Total	$1.1-8.9	$ 2.7
GRAND TOTAL[a]	$4.6-51.2	$21.4

Notes

a/ Because of overlap, only 30 percent of property value benefits are added to other categories (see pp. 119-22).

Table 2

Benefits in 1985 from Removal of Conventional Water Pollutants

(in billions of 1978 dollars)

	Range	Most Likely Point Estimate
Recreation	$4.1-$14.1	$6.7
Non-User Benefits:		
aesthetics, ecology, property values	1.0- 5.0	2.0
Diversion Uses		
Drinking Water-Health	0.0- 2.0	1.0
Municipal Treatment	0.6- 1.2	0.9
Households	0.1- 0.5	0.3
Industrial Supplies	0.4- 0.8	0.6
Commercial Fisheries	0.4- 1.2	0.8
Total	$6.6-$24.8	$12.3

TWO-TIER FUNDING

Mr. BERGER. Thank you, Mr. Nicholson.

Yes, there are a few questions about some of your nine recommendations.

In particular, you note that the association is in favor of a two-tier funding system to reward or provide incentive for the faster moving States. How do you conceive such a system within the $2.4 million that is likely to be submitted as a request?

Mr. NICHOLSON. It would be based on a supplemental appropriation.

Mr. BERGER. Above and beyond the $2.4 billion?

Mr. NICHOLSON. Yes.

Mr. SCHEER. Possibly up to, as far as through 1982, anyway, up to the authorized level.

Mr. NICHOLSON. Which is $4.5 or $5 billion. Coming from Wisconsin, which is a good State to implement the program, they run out of money frequently, even at higher appropriation levels, and they are anxious to go.

I think States of that nature should be provided an incentive to get the national program completed.

Mr. BERGER. As you may know, the Senate authorization committee has included provisions in its bill, which, in essence, will hold A. & E. contractors responsible for the performance of the plant once it was constructed. Has your association taken any position on that provision?

Mr. NICHOLSON. The association has not taken one.

Mr. BERGER. Do you have a personal opinion on this provision?

Mr. NICHOLSON. Yes. I have a personal opinion, that now the public and private participants in the construction grants program who might get a job are independent. It seems that there is no single responsible contractor or entity in a given job to take the responsibility for the whole project from step I through the transition over to ownership.

We are involved in some prime contracts for our equipment. We just can't sometimes get the job done to complete it. Things go wrong, there is always finger pointing, innuendos, always the wrong word, but it is frequent. We should try to establish some responsible person or company in a given project. It could be the consulting engineer. It could be a private sector participant like a contractor, or even equipment supplier that could take the full responsibility and guarantee performance of a plan, from, say, step II, step III. That is my personal opinion.

Mr. BERGER. Thank you. On two other issues having to do with the Federal-State share, in one instance you indicate that the step I and step II planning responsibilities and funding might be best reverted back to the States and, also, that the share for construction might be lowered to 50 percent. Over what time frame would you see this happening?

Mr. NICHOLSON. Three years.

Mr. BERGER. Would it be your recommendation to begin in 1982?

Mr. NICHOLSON. Yes.

Mr. BERGER. Do you feel that the States have the capability to do this?

Mr. NICHOLSON. On the step I, step II. Right. It cuts back the number—we are assuming, of course, if there is no Federal funding involved, the States will have more freedom to have less checks and oversight and review by the EPA. They can get by the step I, step II in a more expeditious fashion and reduce that average 8 years for completion down to III.

Mr. BERGER. Thank you very much for your testimony.

Mr. NICHOLSON. Thank you.

STATEMENT OF KENNETH A. HAGG, DIRECTOR, MASSACHUSETTS DIVISION OF AIR QUALITY CONTROL

ACCOMPANIED BY WILLIAM BECKER, EXECUTIVE SECRETARY, STATE AND TERRITORIAL AIR POLLUTION PROGRAM ADMINISTRATORS

Mr. BERGER. The next witness is Mr. Hagg.

Welcome to the subcommittee, Mr. Hagg. Could you introduce your colleague for the record, please?

Mr. HAGG. Yes.

I am Kenneth Hagg, director of the Massachusetts Division of Air Quality Control. I am here today on behalf of the State and Territorial Air Pollution Program Administrators—STAPPA—the national association representing State air pollution control officials. The agencies STAPPA represents have been given the primary responsibility under the Clean Air Act for preventing and controlling air pollution. Accompanying me today is Mr. William Becker, STAPPA's executive secretary. We appreciate the opportunity to testify here today in support of the administration's fiscal year 1982 request for $87.7 million for State air pollution abatement and control grants under section 105 of the Clean Air Act.

$340 BILLION EARMARKED FOR AIR POLLUTION ABATEMENT

The 11th annual report of the Council on Environmental Quality estimates that this country will spend nearly $340 billion for air pollution abatement in the decade ending 1999. State air pollution agencies are responsible for making sure this massive investment is spent efficiently and effectively for the purpose of protecting air quality. Unfortunately, our ability to meet this responsibility is seriously impaired by the lack of resources available to us.

Our programs are funded by both Federal and non-Federal funds, with the major share coming from State and local revenues. State support has increased over the years, but most legislatures are now no longer able to provide any additional funds to pay for federally mandated programs.

Federal support was increased in fiscal year 1979 in response to new requirements under the Clean Air Act Amendments of 1977; but since then, Federal grants for State air programs have remained essentially level in terms of actual dollars, and have actually decreased in terms of real dollars.

And, meanwhile, States have been delegated increased responsibilities under the Clean Air Act. Further, we are devoting additional resources to energy-related issues, such as coal conversion in the Eastern States and energy development in the West.

In short, our responsibilities are outstripping our program capabilities. This was substantiated by the recent report to Congress of the National Commission on Air Quality, which recommended that the Clean Air Act authorize increased funding and that the "administration and congressional appropriations committees * * * provide the needed funds." Further, an August 1980 General Accounting Office survey of 45 State environmental programs found that State and local air pollution agencies need additional Federal resources to effectively manage their programs.

I would like to take a moment to focus on the severe effect that inflation has had on our programs, based on a recently completed STAPPA survey. Because funding for State air grants has been essentially level for the past 3 fiscal years, we have had to absorb all salary, equipment, and other cost increases, reducing program activities, and delaying program implementation. Ninety percent of the States have cut backon their air quality monitoring efforts and over half are reducing enforcement and source surveillance. These reductions strike at the heart of our program responsibility; namely, to protect the public's health and to make sure pollution control regulations are enforced.

In addition, most States have been forced to delay hiring new staff and are postponing to future years purchases of monitoring and data processing equipment, supplies, vehicles, and necessary maintenance services.

Unfortunately, we only expect the situation to worsen in the future. All indications are that the current reauthorization of the Clean Air Act will shift more responsibilities to State agencies.

The National Commission on Air Quality conclusion on this point is imporant to note. It states that:

> Although a transfer of resources to more substantive technical areas appears possible if existing nonsubstantive procedural requirements are lessened, State and local agencies appear to be ill-equipped to accept substantial additional responsibilities without additional financial resources and personnel.

The States need additional resources to carry out their mandates under the Federal Clean Air Act, but we also realize that it may not be possible to appropriate increased funds this year. With this understanding, we urge you to appropriate the $87.7 million for State air program grants which was requested by the administration. As you did last year, we urge you to designate that these funds be made available to States in the general grant allocation.

TRAINING

Before closing, I wish to note one further area of concern for our programs; namely, training. At salaries substantially below the private sector and the Federal Government, State agencies cannot attract and retain qualified staff;

Section 103(b) of the Clean Air Act requires EPA to provide training for State agency personnel. EPA has failed to request any funds for support of academic training in fiscal year 1982 and it is significantly reducing the short course—inservice—training programs next year. We need these programs and we request your assistance in providing funds for this necessary service.

Mr. BERGER. Thank you very much.

I notice that we do not have a copy of your prepared testimony. Did you bring copies of your statement to the subcommittee office?

Mr. HAGG. We brought 25 copies over to the office last week.

Mr. BERGER. We will just have to find them. You might leave an extra copy with us before you leave.

Let me ask you a few questions on some of the issues that you have raised.

Mr. HAGG. There are some copies of my statement over there on the table.

Mr. BERGER. Thank you.

PUBLIC VERSUS PRIVATE SECTOR SALARIES

We seem to have this perennial problem with public versus private sector salaries throughout the Government, and in particular with State and local governments. This is kind of a philosophical question, but do you see any end to this? I mean, is there something that can be done at the State and local level to support people at salaries that are competitive with the public sector? Or is this something that we are always going to have to be fighting?

Mr. HAGG. In my 12 years of experience in State government, the problem has always been there.

As you know, it is a perennial one, and I honestly don't see anything on the horizon that is about to change that situation. At least in our own experience in Massachusetts, the State budget is so tight that one of the first places to look at is State salaries.

I just don't see them quickly, if at all, ever becoming competitive.

Mr. BERGER. What level of funding would you recommend under section 103(b) for 1982?

Mr. HAGG. We would recommend the level—there was a level appropriated last year, I believe, which was $2 million.

Mr. BERGER. The same level as 1981. Let me ask another possibly philosophical question. Of the activities that are performed at the State level, such as monitoring, enforcement, and permitting, do you see any of those more naturally falling into the responsibility of the Federal Government versus the State government? What we tend to do now is to provide broad-based support for a range of activities, some that are more appropriate at the Federal level because of their character.

Mr. HAGG. The particular activities that we mentioned, including monitoring, enforcement, and the like, I think the membership of STAPPA would generally agree we belong at the State level. And the association, in general, has taken the position that in almost every instance, States can provide better services for the dollar than could be provided directly through the Federal Government.

Mr. BERGER. Thank you very much for your testimony.

Mr. HAGG. Thank you.

STATEMENT OF DAVID DUNCAN, ASSOCIATION OF STATE & TERRITORIAL SOLID WASTE MANAGEMENT OFFICIALS

Mr. BERGER. The next witness is Mr. David Duncan. Mr. Duncan, would you proceed with your testimony?

Mr. DUNCAN. I am David Duncan, director of the Association of State & Territorial Solid Waste Management Officials. Our membership consists of the directors of State solid and hazardous waste programs.

We are responsible for the implementation of the Resource Conservation and Recovery Act and it is our concern over RCRA appropriations that I would like to address today, especially the loss of funding for subtitle D which authorizes State grants for nonhazardous waste programs.

INCREASE IN FEDERAL FUNDING

During the past several years, Federal funding to State solid and hazardous waste management agencies under RCRA has increased from $14.5 million in fiscal year 1978 to $38 million in fiscal year 1981. This increase in RCRA appropriations to the States has enabled State waste management agencies to develop the legal framework necessary for comprehensive hazardous waste management programs. These State programs will eventually consist of sophisticated and equitable regulations, strict, yet fair, enforcement mechanisms, and timely, rigorous response procedures to circumstances involving threats of contamination from uncontrolled hazardous waste disposal sites.

Ostensibly, the proposed cuts in subtitle D grants represent a shift in EPA's emphasis to hazardous waste problems. The association supports corresponding increases in subtitle C grants to reflect this emphasis, and subtitle C supports the State's hazardous waste proposals. However, because State solid and hazardous waste activities are interrelated, the elimination of subtitle D solid waste grants will negatively impact State hazardous waste programs. Therefore, these proposed cuts are of serious concern to the association.

The EPA estimates approximately 90 percent of the hazardous waste generated in the United States is improperly disposed. If this estimate is accurate, then a significant portion of this waste must be surreptitiously deposited in solid waste landfills. Furthermore, the EPA has established a legal pathway for hazardous waste disposal in sanitary landfills. The agency has specifically exempted small quantities of hazardous waste producers who generate less than 1,000 kilograms, over a ton, a month to dispose of their wastes in subtitle D solid waste facilities.

Therefore, in order to address these problems, State solid waste programs have increasingly been shifting emphasis from traditional activities such as nuisance abatement and vector control to activities responding to threats of chemical contamination. These endeavors have included the RCRA-mandated open dump inventories, ground water protection efforts, hazardous waste management surveillance, and uncontrolled site investigation and scoping.

This work has augmented State hazardous waste programs. Eliminating subtitle D grants will effectuate reductions in these activities at a critical time. The absence of these funds will seriously hinder the development of State hazardous waste strategies and, without a corresponding increase in appropriations from other sources, the mandate of RCRA will remain unfulfilled.

Increasing subtitle C appropriations and enacting the superfund legislation are not commensurate with the increases in State resources needed to implement necessary solutions. For example, the EPA uses State-engerated lists of uncontrolled hazardous waste disposal sites when ascertaining which abandoned sites should receive superfund moneys for remedial action.

These sites are funded by the subtitle D grants. However, the termination of these subtitle D grants will preclude the completion of open dump inventory work and surveillance which are vital components of State prioritization efforts. Without uncontrolled site inventories, States cannot provide the EPA with satisfactory lists of sites posing the greatest threats to public health and the environment. Thus, EPA will be forced to make administrative decisions based on insufficient information, potentially squandering millions of taxpayer dollars.

This waste of resources can be prevented. The answer to the hazardous waste dilemma lies with both Federal and State governments. Although the Federal Government maintains the financial resources, the States are in the most appropriate position to identify specific problems and initiate remedial actions. Additional funding and staff is needed, however, before State agencies can conduct such efforts.

WASTE BLOCK GRANTS TO STATES

In recognition of this untenable situation, the association respectfully proposes that the committee appropriate $51.7 million in fiscal year 1982 for funds in the form of waste block grants to the States. This proposal represents an increase of $10 million over the recommended $41.7 million appropriated for subtitle C grants.

The money could be used for the inventory of abandoned sites, completing the open dump inventory, or urban resource recovery grants, as required by the States. This addendum, while providing States with essential resources, is but a small fraction of the total suggested EPA budget of $1.39 billion for the upcoming fiscal year. The association recommends that the additional $10 million of environmental protection funds be diverted from the Federal level of State waste management agencies.

Waste block grants would provide States with the flexibility to respond to problems more expeditiously and effectively than through present subtitles C and D grants. States could continue development of their respective hazardous waste programs while concurrently providing EPA with the scoping necessary to efficiently administer the superfund. Uncontrolled site prioritization efforts will also enable States to conduct their own cleanup projects.

There is an artificial distinction at a functional level between subtitles C and D activities. Congress cannot afford to terminate subtitle D grants without a corresponding increase in funding from an alternate source. To do so would exacerbate incidences of illegal hazardous waste disposal, and preclude timely remedial actions for past improper disposal practices. Previous State environmental management efforts have demonstrated the veracity of the present administration's belief that State agencies can administer Federal funds and programs more efficiently than their Federal counterparts. Waste block grants will continue to substantiate this hypothesis. Such grants will facilitate the management of land for its highest contemplated use and promote protection of public health and environment.

In summary, I appreciate the opportunity to express the views of the association in your difficult deliberations. We hope that you will act favorably on our request so that the Federal/State partnership can be utilized to implement the important goals of the Resource Conservation and Recovery Act and the superfund.

Without adequate funding to States, the goals of these statutes cannot be realized.

In addition to this testimony, one of the problems in phasing out subtitle D funding is, as you know, many State legislatures are winding up and going home for the rest of the year. Without a phasedown, there is no opportunity for the States to enact alternative methods of funding, such as user fees, that could be used to supplement the subtitle C grants in these efforts.

Mr. BERGER. Thank you very much. What would you consider to be a reasonable and responsible phasedown period for the subtitles?

Mr. DUNCAN. The past administration was going to phase it down over the next 3 fiscal years. Understanding the present situation and that all programs cannot receive the phasedown we would like, I would say at least another fiscal year, and preferably two more, would give us the chance to get the resource recovery methods, the user fees, and different types of things that will supplement this.

Mr. BERGER. Thank you very much.

STATEMENT OF GORMAN PINKSTON, PRESIDENT, NATIONAL UTILITY CONTRACTORS ASSOCIATION

Senator GARN [presiding]. Ladies and gentlemen, I apologize for being late. I appreciate your willingness to go ahead without me. It is not normal that we have hearings without the chairman of the subcommittee or another Senator here. We had some very critical meetings this morning with the President on the tax and budget package. So I was not able to be here to start the hearings.

As not to waste any more time, I understand that Gorman Pinkston is here, president, National Utility Contractor's Association.

We would be happy to hear from you at this time, sir.

STATEMENT HIGHLIGHTED

Mr. PINKSTON. Mr. Chairman, members of the subcommittee, my name is Gorman Pinkston, I am a ditchdigger and small businessman from Portsmouth, Va., here today as president of the National Utility Contractors Association.

NUCA has 2,500 member firms across this Nation involved in sewer, water, and underground utility construction work. We appreciate this opportunity to express our views on the administration's fiscal year 1982 funding plans for the Environmental Protection Agency's construction grants program.

President Reagan has said that he would fund the construction grants program at $2.4 billion next year. That isn't enough. Not when this Nation has some $120 billion in identified cleanup needs, an impending water supply crisis, and a deteriorating urban infrastructure.

But, these are trying economic times and many worthwhile programs are being cut back. We are not opposing reduced appropriations for the construction grants program at this time.

As businessmen and Americans, we support President Reagan's economic recovery package, including Federal spending reductions, corporate and personal tax relief, and regulatory reform.

The President has said, however, that he would ask for $2.4 billion only in conjunction with certain reforms. Senator Chafee has introduced a reform package, S. 1274, which will dramatically reform the program.

We applaud Senator Chafee's efforts and would suggest only one change to return priority decisionmaking to the States, rather than narrowing a State's options for cleanup action.

However, that legislation may take several months to complete its legislative cycle and a funding decision is needed during the reconciliation process.

So, gentlemen, we respectfully urge you to earmark $2.4 billion for the construction grants program in fiscal 1982 now, because it will be a lot more difficult to include it in the second budget resolution in September.

This is extremely important. Zero funding would destroy the program, particularly if it follows on the heels of the $1.7 billion rescission this committee recently approved.

RESCISSION REQUEST

Permit me to address that rescission request, because it does have a tremendous impact on this program. Again, we are not actively fighting this request in the light of our support for the Reagan economic package, but we would urge Congress to review the rescission in order to seek a more equitable distribution or a readjustment of the cuts. This rescission would leave Washington and Arizona totally without funds and severely curtail activities in 11 other States that would lose all of their unobligated 1980 balances. Michigan, Minnesota, Illinois, California, and Oregon are among these States.

Outlays for this program peaked at $4.3 billion last year. The construction industry, support elements, and manufacturers are geared up. States have finally begun to move and accept management responsibilities. Progress is now visible as more and more projects come on line.

The program has to be continued. Few resources are as precious as the water we drink. But, we must come up with a better method of continuing this program and adequately financing it to meet our Nation's massive needs.

In that light, we would like to suggest that the answer may be in an alternate funding mechanism and plan that gradually turns the program over to the States and local communities who certainly can best determine their own cleanup needs.

Today, it takes from 7 to 9 years to complete an EPA project from design to construction. A great deal of that delay is due to excessive regulations and reviews and the Federal presence.

The money is there because that is where the Federal Government gets it from in the first place. Therefore, we would like to ask this committee to fund a study of alternate funding plans and how such a plan could be implemented to insure a gradual and smooth transition over a 5-year period.

In my hometown of Portsmouth, there are 35,000 water meters which register an average of 7,500 gallons a month. That is 90,000 gallons a year. Twenty cents per thousand gallons would produce more than $600,000 for the city of Portsmouth each year at an average charge of $18 per meter.

This is just one possible solution and one which would also encourage conservation of this vital resource. I am sure the right experts could come up with a number of options for consideration.

Of course, any plan should also focus on returning cleanup responsibilities to the States with EPA assuming a regulatory and monitoring rule.

If America is to finish the job of cleaning up its water we must move boldly ahead. This program cannot afford business as usual with its starts and stops, fluctuating funding levels, and the massive regulatory burden that has been placed upon it. A study of this sort should be able to be conducted for $250,000, I would think.

ADDITIONAL RECOMMENDATIONS SUBMITTED

Gentlemen, we appreciate your time today. We do have a number of other specific recommendations to improve the program and would like to submit them for the record, along with a study that analyzes the environmental and economic impact and advantages of the Clean Water Program.

This program can work. It has worked. Let us finish the job.

Thank you.

Senator GARN. Thank you very much, Mr. Pinkston. We appreciate your willingness to appear today. Without objection, your study will appear at this point in the record.

[The information follows:]

The Construction Grants Program—Costs and Benefits

EXECUTIVE SUMMARY

The Construction Grants Program, set up to assist municipalities in meeting the costs of constructing and upgrading wastewater treatment systems, is to be reviewed by Congress this year. Originally funded at $18 billion, the program has been allocated an average of $4.5 billion annually over the past 8 years. Whether this outlay will continue depends on the Congressional assessment of the costs and benefits of the program to date.

The Construction Grants Program was initally organized to implement the goals of the Federal Water Pollution Control Act Amendment of 1972. Those goals specifically included water suitable for secondary contact, such as sailing, recreational purposes by 1977, and for fishing and swimming by 1983. At least secondary sewage treatment, and more stringent treatment when necessary, was to be achieved by all municipalities by 1977.

Although the 1977 goals of the Clean Water Act were not met by all waterways in the United States, a significant trend of water quality improvement was realized. The Construction Grants Program also provided sizeable economic benefits, including increased tourism, lower water purification costs and additional employment, to the communities which received assistance (see Figure A).

Water quality improvement is the most noticeable benefit of the ongoing implementation of the Clean Water Act. Statistical improvement in significant parameters which demonstrate this improvement include:

- The amount of oxygen demanding material discharged to the nations waterways, which is an important pollution indicator, has decreased approximately 70 percent in the past five years.
- The level of the element phosphorous, which nurtures the propagation of algae in the nations waterways, has been reduced at 381 important sampling locations between 1971 and 1977.
- Dissolved oxygen, a measure of the ability of water to support aquatic life, has improved 81 percent in the 145 stations which previously had the most persistent violations.

Benefits to the construction industry from the Construction Grants Program have included well over a million manyears of employment. The $28.91 billion obligated over the life of the program has been spread over labor, materials, supplies, process and construction equipment, and

BENEFITS OF THE CONSTRUCTION GRANTS PROGRAM

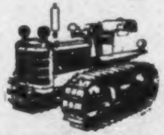
Construction Benefits

Increased Employment in Construction and Related Jobs by 1.3 Million Man-Years

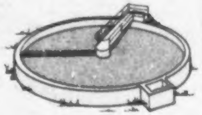
Create 3.2 Million Man-Years of "Spin-Off" Jobs

The Above Jobs Will Support 7.3 Million People

Increased Demand for Construction Materials Such as Pipe and Steel


Increased Usages of Heavy Construction Equipment

Clean Water Benefits


Decreased Pollutant Loadings from Municipalities by 70%

Lowered Costs of Water Purification

Increased Recreational Uses

Increased Tourism

Diversified Aquatic Life

fees to the construction engineering industries. Of the total dollars obligated, nearly 27 percent have been spent for labor costs, 23 percent for materials (including process equipment), 24 percent for construction overhead (including construction equipment) and the remainder for various other construction expenses (see Figure 1).

The benefits to the communities receiving grants and to the construction industries in those communities have been large enough to justify the major expenditure for the program, yet much remains to be done in cleaning up the nation's waterways. EPA estimates that it will cost over $106 billion over the next two decades to reach the goals of the Clean Water Act, but these dollars will be well spent. In order that these benefits to the municipalities continue, Congress must allocate funds for the Construction Grants Program throughout the remainder of this century.

I. BACKGROUND

This year will be a decisive one for the future of the Construction Grants Program. The Clean Water Act of 1977, passed as a successor to the Federal Water Pollution Control Amendments of 1972, is to be evaluated for reauthorization by Congress. The nature and scope of that reauthorization, as well as State and local authorities' willingness to continue their part in water clean-up, will have a major impact on the nation's waterways in the coming years.

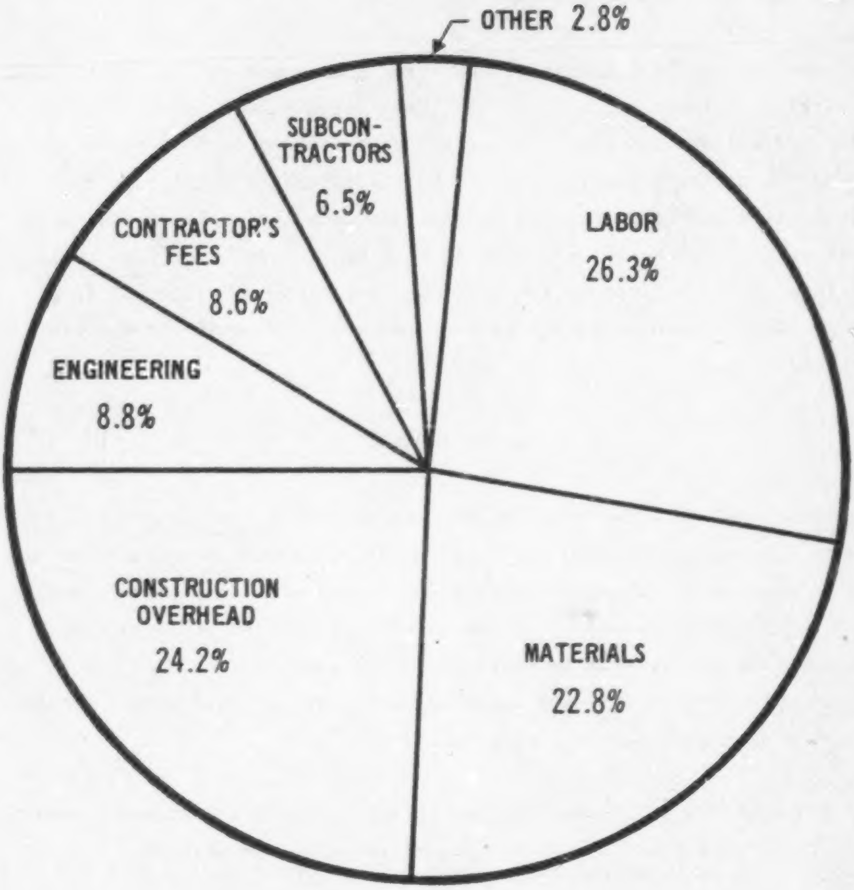
The goals of the 1972 Federal Water Pollution Control Amendments include:

1. "That the discharge of pollutants into the navigable water be eliminated by 1985."
2. "That wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983."

To reach these long-term goals, all municipalities were to achieve secondary levels of wastewater treatment and water quality was to be suitable for secondary contact recreation by July 1, 1977. By 1983, all municipal systems are to achieve best practicable waste treatment technology.

Under the Construction Grants Program, (PL-92500), Congress originally authorized the Environmental Protection Agency to allocate $18 billion in Federal grants to help implement the nation's clean water goals. The Federal money was to pay for up to 75 percent of eligible costs of con-

FIGURE 1
CONSTRUCTION GRANTS TO DATE
COST BREAKDOWN



Construction Category	Percent of Total Expenditures to Date	Amount in Billions of Dollars
Labor	26.3%	$7.8
Materials	22.8	6.6
Construction Overhead	24.2	6.9
Engineering	8.8	2.5
Contractor's Fees	8.6	2.4
Subcontractors	6.5	1.9
Other	2.8	.81
TOTAL	100%	$28.9 Billion

struction of wastewater treatment and collection facilities, including sewage treatment plants and some major sewer lines. State and local agencies were to provide the balance of the necessary funding.* Subsequent appropriations, including those under the 1977 Clean Water Act, have obligated 28.91 billion in Federal grants through 1980. (See Table 1.) The Construction Grants Program operates with approximately $4.5 billion per year and is thus the EPA's largest direct outlay program, with outlays currently totalling over $18 billion.

The results of these outlays include cleaner water and various other accrued employment and economic effects. Payments to the construction industry for labor, equipment, materials, and other goods and services associated with sewer line and sewage treatment plant construction have had a significant economic impact on communities, due to the ripple effect of the circulation of these dollars through the local economies. Therefore, the advantages of wastewater treatment system construction have been widespread and varied.

The future of the Construction Grants Program depends on evaluation of the impact on the nation's waterways resulting from expenditures to date, the level of overall water quality the nation chooses to achieve and projection of what remains to be done to meet the water quality goals. The EPA's Needs Survey, published semi-annually, indicates that the municipalities which have yet to obtain secondary treatment are numerous. The economic advantages of the Construction Grants Program, if it is reauthorized by Congress, could thus continue for some time.

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* Costs which are eligible for Federal funding do not include non-construction costs, such as legal and administrative fees, so Federal grants actually cover about 62.5 percent of total project costs.

TABLE 1

FUNDS APPROPRIATED UNDER THE CONSTRUCTION GRANTS PROGRAM (beginning 1972)

II. FUNDING

$ 18 billion contract authority originally.
$480 million appropriated by Talmadge/Nunn Amendment, available until expended.
$ 1 billion appropriated on 5/4/77.
$4.5 billion appropriated on 3/7/78.
$4.2 billion appropriated on 9/30/78, with minimum of $20,709,038 for any State 2 years before reallotment
$3.4 billion appropriated on 11/15/79
$3.3 billion appropriated December 1980
$34.78 billion TOTAL

Source: Clean Water Fact Sheet, EPA, Office of Water Program Operations

II. BENEFITS OF THE CONSTRUCTION GRANTS PROGRAM

Under the Construction Grants Program, over 28.9 billion dollars have been obligated for construction of municipal wastewater systems. (See Table 2.) Of these obligations, only 9,211 projects, at a cost of $4.363 billion, have been completed. The remainder of the grant money is currently allocated for projects in the planning or construction stage (see Table 3), or has been used to cover increased costs which have resulted from inflation between project authorization and award of construction contracts. Rising labor and materials prices have cut increasingly into the funds allocated by the program, and some states and municipalities have had difficulties raising their share of the funding. Although overall progress in constructing municipal wastewater treatment systems has been slower than expected, the results of the grants assistance program are nonetheless encouraging.

A significant trend towards cleaner water over the past eight years in the United States is the most obvious result of the Contruction Grants Program, but there are benefits to the construction industry as well. These include increased employment, large expenditures for materials, equipment, and other related construction costs, and various other spin-off and secondary economic effects.

II.1 CLEAN WATER BENEFITS

Implementation of the Clean Water Act has directly resulted in major water cleanup. Since the inception of the Construction Grants Program in 1972, measureable improvement has been recorded in most indicators of overall water quality. The trends are not yet nationally significant, because water quality improvement takes a long time and many of the treatment plants constructed under the program are just beginning to go on-line, and because many industrial and urban discharge centers are still not in compliance with EPA standards. Signs of water quality improvement, based on data from the National Stream Quality Accounting Network (NASQAN), the National Water Quality Surveillance System (NWQSS), and other EPA and Council on Environmental Quality studies, include:

- A trend of improvement in number of violations of dissolved oxygen (DO) standards from 1971-1972 to 1977-1978, based on 1200 stations with 8 or more observations each. (DO measures the ability of water to support aquatic animal life, and is depressed by high levels of decaying organic matter, such as human sewage.)
- 81 percent improvement of the 145 stations with the worst DO violations.

TABLE 2

PUBLIC LAW 92-500 AND SUBSEQUENT AMENDMENTS: OBLIGATIONS AND OUTLAYS

(In dollars)

Fiscal Year	Authority	Allotments	Obligated	Outlays
1973[1]	5,000,000,000	2,000,000,000	1,532,048,571	0
1974	6,000,000,000	3,000,000,000	1,444,443,360	158,816,688*
1975	7,000,000,000	4,000,000,000	3,616,168,130	874,158,134*
1976[2]	0	9,000,000,000	4,813,639,424	2,563,497,940*
1977[3]	1,480,000,000	1,480,000,000	6,663,832,066	2,710,444,759*
1978	4,500,000,000	4,500,000,000	2,300,916,959	2,959,897,559*
1979	5,000,000,000	4,200,000,000	3,871,696,000	3,612,400,000*
1980	5,000,000,000	3,400,000,000	4,384,000,000	4,343,000,000**
1981	5,000,000,000	3,200,000,000	377,900,000	1,195,000,000**
(to date)			$28.9 billion obligated to date $18.4 billion outlayed to date	

1 Contract Authority
2 Includes Transition Quarter (July-September 1976)
3 Includes $480 million under Public Works Employment Act

* Does not include reimbursable funds or old law projects
** Includes reimbursable and old law projects

Source: R.L. Michel, EPA
Office of Water Program Operation

TABLE 3

GRANTS AWARDED PER STEP FROM INCEPTION OF PROGRAM
(As of December 31, 1980)

Phase of Construction	Number of Grants	Amounts
Step 1 Preliminary Planning	8,941	$701.9 million
Step 2 Design	4,513	$1090.7 million
Step 3/4* Construction	7,181	$ 26.1 billion

* Combined step 2 & 3 grants

Source: Clean Water Fact Sheet, EPA
Office of Water Program Operations

o Statistically significant national improvement of phosphorus levels in 381 sites from 1971-1972 to 1977-1978. (Phosphorus levels are important in control of eutrophication.)

o Dramatic overall improvements in water quality in 23 geographic areas documented by EPA monitors.

o Implementation of best practicable technology regulations have reduced biochemical oxygen demand (BOD) by 69 percent, suspended solids by 80 percent, oil and grease by 71 percent, dissolved solids by 52 percent, phosphates by 74 percent, and heavy metals by 75 percent since 1972. (BOD measures the demand for oxygen exerted by the organic contaminants in waters. High levels indicate poor water quality and may be caused by improperly treated industrial waste and human sewage.)

Clean water in a community's environment is not only more aesthetically acceptable than polluted water, but it can have a significant economic impact on that community. Bodies of water suitable for recreational uses such as swimming and fishing can generate sizable tourist industries, and costs of purifying water for home and industrial uses are much lower. The obvious health benefits which result from sanitary wastewater treatment are also important economic considerations. Thus, the Construction Grants Program, by encouraging the construction of municipal sewage treatment facilities and sewer pipelines, has had a direct economic effect on the localities involved.

II.2. Construction Benefits

Aggregate Construction Costs

Cleaner water is not the only benefit of the Clean Water Act, although it is the most obvious one. Economic benefits to the communities, and to the construction industry, have been substantial. The benefits of the Construction Grants Program to the construction industry are best illustrated by a breakdown of the costs of constructing typical sewage treatment plants and sewer lines.

The Environmental Protection Agency separates the total costs of treatment systems into five categories for their semi-annual Needs Survey. By calculating the percentage of grant money spent in each category, the relative funding of sewage treatment plants and sewer lines can be determined. Calculations show that since the inception of the Construction Grants Program, 53 percent of the grants have been for construction of new or upgraded treatment plants, and 47 percent for the costs of constructing or rehabilitating sewer lines (see Table 4). The portion spent for sewer lines include the category for combined sewer overflows, which is only partially funded by the program.

Total grants to both sewage treatment plant and sewer line projects since 1972 are broken into seven major construction categories in Figure 1. These figures do not include non-construction costs such as legal and administrative fees and any local government requirements such as permits, which are not eligible for Construction Grants funding.

Labor

The largest single construction cost for the aggregate costs of sewage treatment plant and sewer line construction is for labor. Over 7.8 billion dollars, or about 27 percent of the total construction cost, have been spent for labor costs of construction since the beginning of the program.

Employment generated from the Construction Grants Program includes direct, onsite construction jobs as well as indirect jobs such as production of materials and process equipment. EPA estimates that, to date, the program's funding of municipal sewage facilities has directly generated well over a million man years of employment. For each $1 billion of grant money, the projects employ an estimated 14,000 workyears of labor and trades onsite, and an additional 22,000 offsite workyears. Because the Federal grant money accounts for only approximately 62.5 percent of the total project cost, the state and local shares will produce additional manyears of employment, resulting in about 57,600 workyears

TABLE 4

BREAKDOWN OF CONSTRUCTION GRANTS TO DATE BY CATEGORY

	Category	% of Past Expenditure (Total Federal, State and Local)	
I	Secondary Treatment	37%	53% plant construction
II	More Stringent Treatment	16%	
III	Sewer Line Infiltration, Inflow, Rehabilitation and Replacement	3%	47% sewer line construction
IVa	New Collector Sewers	13 %	
IVb	New Interceptor Sewers	22 %	
V	Combined Sewer Overflow	9%	

TABLE 5

PLANTS CONSTRUCTION DISTRIBUTION OF *MANYEARS/BILLION OF ELIGIBLE CONTRACT $ IN 1980

Construction Industry	
Onsite	9,750
Offsite	750
Total	10,500

Other Industry	
Manufacturing	10,500
Trades, Transportation and Services	3,570
Mining and related	1,430
Total	15,000

SEWER LINE CONSTRUCTION DISTRIBUTION OF MANYEARS/BILLION OF ELIGIBLE CONTRACT $ IN 1980

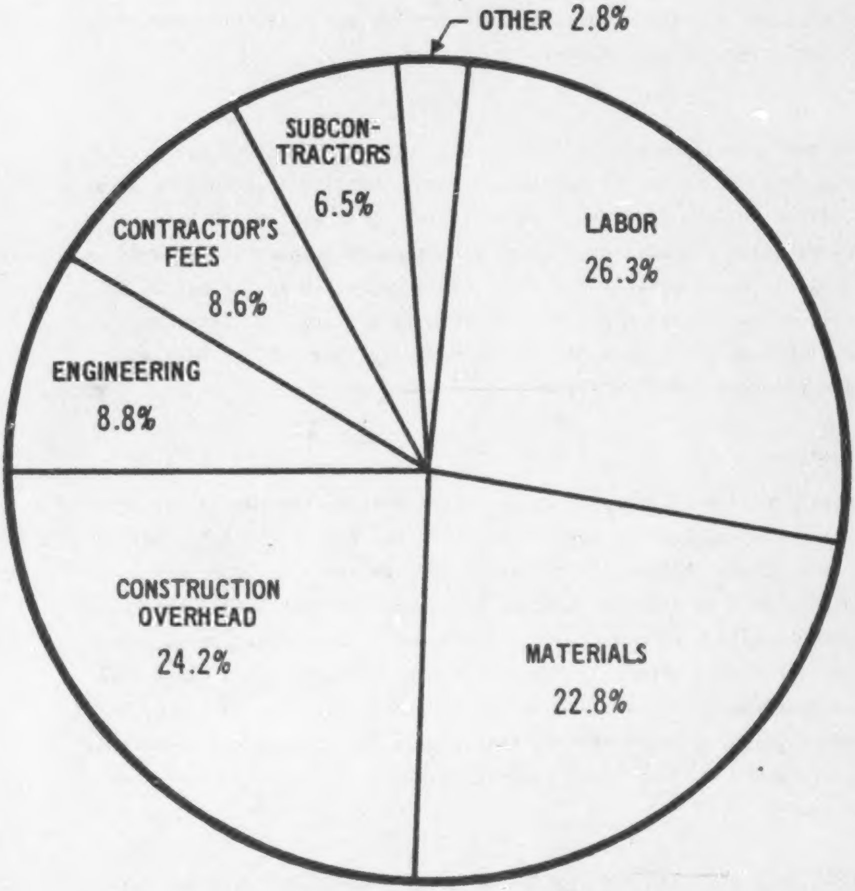
Construction Industry	
Onsite	10,400
Offsite	200
Total	10,600

Other Industry	
Manufacturing	9,190
Trades, Transportation and Services	3,690
Mining and related	1,920
Total	14,800

*One manyear in the construction industry equals 1800 manhours per year. For other industries, one manyear equals 2000 manhours per year.

Source: R.L. Michel, EPA

FIGURE 1
CONSTRUCTION GRANTS TO DATE
COST BREAKDOWN



Construction Category	Percent of Total Expenditures to Date	Amount in Billions of Dollars
Labor	26.3%	$7.8
Materials	22.8	6.6
Construction Overhead	24.2	6.9
Engineering	8.8	2.5
Contractor's Fees	8.6	2.4
Subcontractors	6.5	1.9
Other	2.8	.81
TOTAL	100%	$28.9 Billion

per billion dollars of total project cost.* Each of these jobs produces approximately 2.5 "spin-off" jobs for community service and support personnel such as doctors, bankers, grocers, and servicemen. This multiplier effect of the Federal money as it circulates throughout the community as wages, payments, and taxes for various goods and services helps to stimulate the economies of states and municipalities receiving construction grants assistance.

In the past year, new plants constructed under the Construction Grants Program resulted in 10,500 manyears of employment of construction workers per billion dollars of Federal expenditure. This was in addition to the 15,000 manyears per billion dollars generated in support and related industries. Construction of sewer lines required an additional 10,600 manyears of direct labor per billion Federal dollars, and auxiliary sewer line employment totalled 14,800 workyears per billion Federal dollars expended (see Table 5).

Materials

Materials required for the construction of sewage treatment plants and sewer lines accounted for approximately 23 percent of the total construction grants obligations to date. This category includes process equipment, such as screens, basins, reactors, and filters for the treatment plants, and pipe and fittings for sewer lines. Appurtenant items include structural materials and components, mechanical and electrical system components, process control instrumentation, etc. Other materials include pipe fittings, manholes, instruments, insulation and electrical fittings, pumps components of pumping stations, structural steel, and concrete.

Over the past years of the program, materials costs have accounted for over $6.5 billion of the total project costs.

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* Each one billion dollars of Federal grant money produces 36,000 total workyears, but Federal money is only 62.5 percent of the total project cost. After State and local funds are added, the total workyears produced per billion Federal dollars expended is 57,600. Thus:

Per billion Federal $:	14,000	workyears onsite	62.5% of total cost
	22,000	workyears offsite	
	36,000	total workyears	
Add State & local funds:	21,600	workyears	37.5%
Total project cost:	57,600	workyears	100.0%

Construction Overhead

The category for construction overhead in sewage treatment plant and sewer line construction required about 24 percent of total project costs to date. The major component of overhead for contractors is heavy equipment ownership costs (purchase, rental, and upkeep), but it also includes management salaries, taxes and insurance, inventory maintenance fees, rent and utilities, maintenance labor and supplies, contractors' legal and audit expenses, service supplies such as fuel oil and parts, licenses and permits, and interest and depreciation costs.

Construction overhead expenditures have totalled approximately 7 billion dollars since 1972.

Other Construction Grant Program Expenses

Categories of Grant Program expenses which are lesser percentages of overall costs include engineering expenses, contractor's fees, subcontracts, and miscellaneous expenses. Expenses for engineers' design and consulting fees have accounted for about $2.5 billion, and contractor's fees which are not covered under labor, material or equipment expenses amounted to approximately $2.4 billion dollars. Subcontracts are a significant expense in the construction of sewage treatment plants, where mechanical, electrical, plumbing, and other subcontractors are required, but these trades are seldom used in sewer line construction. Therefore, the aggregate cost for subcontracts is relatively small, amounting to about 1.9 billion dollars. Miscellaneous expenses, such as contingencies and special architectural or contractor's fees, totalled less than one billion dollars.

These figures are an aggregate of many different sizes and types of sewage treatment plants and sewer lines, and construction costs as well as the percentage of total cost expended in each category can vary considerably with individual projects. Labor and materials costs and availability are especially sensitive to geographic and seasonal fluctuations, and high inflation rates have significantly increased the costs of ongoing projects funded at the beginning of the program. All of these cost adjustments will cause variations in the costs of wastewater treatment systems.

III. FUTURE COSTS AND BENEFITS OF THE CONSTRUCTION GRANTS PROGRAM

The projects funded by the Construction Grants Program have demonstrated that the goals of the Clean Water Act are achievable, but much remains to be done. In order to cleanup all of the waters of the nation as envisioned by the Clean Water Act, funds must be allocated to continue the program.

Nearly 25 percent of the housing units in the United States are still served by septic tanks, which are the most common alternative to community style wastewater collection and treatment systems. In ten states (Maine, New Hampshire, Vermont, Connecticut, Tennessee, North Carolina, South Carolina, Florida, Idaho and Oregon) over 35 percent of the households were using septic tanks in 1970. (See Figure 4). The extent of septic tank usage is significant because it illustrates how much is left to be done before the objective of secondary wastewater treatment is met.

Septic tanks can be a cost-effective approach to wastewater treatment in areas of sparse population with good soil absorption characteristics, but they are often used in areas with unsuitable highly permeable soil. In these cases, they are ineffective and sometimes even hazardous, as harmful bacteria or toxic substances may enter the groundwater supply and then be pumped from wells. Although septic tanks, when properly functioning, can be as effective in wastewater removal as secondary treatment plants, they have historically been less effective because of poor operation and maintenance.

Because the alternatives may be ineffective and hazardous, it is important to implement the Clean Water Act objective of secondary treatment for all wastewater in the United States. The Clean Water Act mandates that semi-annual cost estimates of municipal wastewater systems needs be submitted to Congress, and these are then used to provide relative reallocations of Federal grant monies. The cost estimates are broken into Needs categories, which include secondary treatment plants, more stringent than secondary treatment (which is required in some cases by the Clean Water Act) and various categories for rehabilitation and new construction of collector and interceptor sewer lines. Estimated costs, in 1978, of sewer system construction necessary to meet the goals of the Clean Water Act by the year 2000 are shown in Table 6.

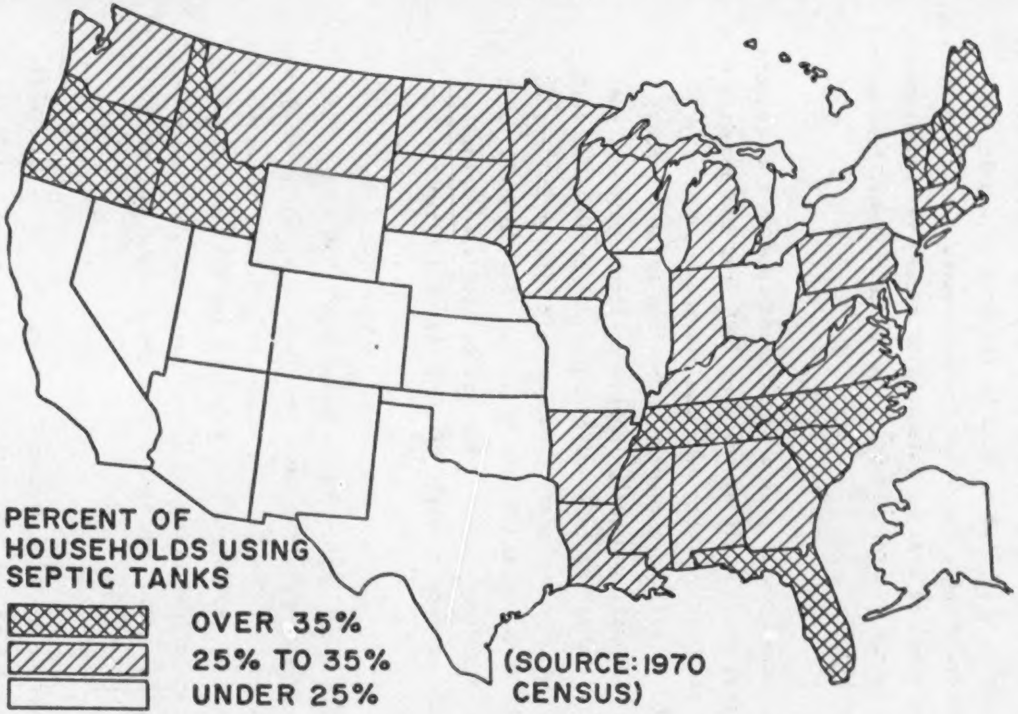

PERCENT OF
HOUSEHOLDS USING
SEPTIC TANKS
OVER 35%
25% TO 35%
UNDER 25%
(SOURCE: 1970
CENSUS)

FIGURE 4. DISTRIBUTION OF ON-SITE SEPTIC SYSTEMS, BY STATE, IN THE UNITED STATES

SOURCE: I.A. Cooper, J.W. Rezek, Septage Treatment and Disposal, 1977.

EPA estimates that $35.6 billion must be spent to construct and upgrade sewage treatment facilities to achieve water quality treatment goals by 2000. An additional $70.55 billion will be required to repair and construct the necessary sewer lines for the wastewater collection systems. These figures are based on state's estimates of their own funding needs, and since the estimates are for allocation purposes they may be somewhat high.

The construction industry will play a significant role in the projects necessary to achieve these goals by the year 2000, and the benefits will be as widespread as they have been over the previous course of the program. The $106.15 billion necessary to realize total secondary treatment in the U.S. will generate almost 4 million workyears, both offsite and onsite. This figure is based on an EPA estimate of 14,000 onsite and 22,000 offsite workyears generated per billion dollars of expenditure in the Construction Grants Program. (See Table 7). With spin-off effects, and assuming that each job created can support a family of four, the accrued benefits of the planned program are very large.

A cost breakdown of future expenditures shows that $27.9 billion are necessary to pay for the required labor for these construction projects. Construction overhead will account for almost $26 billion, materials for another $24.2 billion, and engineering requirements will use almost $10 billion. The indirect jobs generated from these expenditures are not evident from this breakdown, but the size of the funding suggests that the economic impacts will be significant.

The benefits of the Clean Water Program to communities which have utilized the available grants are numerous, and these benefits should not be denied to municipalities which have not yet achieved secondary treatment. Continuation of the program will be expensive, but the advantages of clean water and stimulated economies outweigh the costs.

TABLE 6

1978 Estimate of Wastewater Treatment Needs Between 1978 and 2000 to Comply with the Clean Water Act

	Category	EPA Assessment (in billions)	
I	Secondary treatment	$15.09	$35.6
II	More stringent than secondary	$20.51	
IIIa	Correction of sewer infiltration/inflow	$ 2.44	$70.55
IIIb	Rehabilitation and replacement of sewers	$ 4.88	
IVa	New collector sewers	$19.02	
IVb	New interceptor sewers	$18.47	
V	Combined sewer overflows	$27.74	
	TOTAL	$106.15	

TABLE 7

Cost Breakdown of Future Expenditures
(Based on 1978 Needs Survey)

$35.6 billion needed for plant construction
$70.55 billion needed for sewer line construction and repair

$106.15 billion total

Category	Cost in Billions
Labor	$27.9
Materials	$24.2
Construction Overhead	$25.9
Engineering	$ 9.3
Subcontracts	$ 6.9
Construction Fees	$ 3.0
Other	$ 9.1
Total	$106.15

JOBS CREATED

Each $1 billion from EPA yields:

14,000 workyears onsite
22,000 workyears offsite

36,000 total workyears

So an additional $106.15 billion will yield:

1,486,100 workyears onsite
2,335,300 workyears offsite

3,821,400 total workyears

APPENDIX: COST-BENEFIT VARIABLES

Labor and materials prices will vary with geographic location and availability, as well as with rates of infla.ion. Other variables in costs and benefits can be presented by analyzing sewage treatment plant and sewer line construction projects separately.

Sewage Treatment Plant Costs

Costs of constructing a sewage treatment plant will vary widely. New plant construction costs depends on the size of the facility, which in turn depends on the size and type of population served, and on the degree of treatment necessary. For example, construction of a 5 million gallon per day wastewater treatment plant requires a typical investment of about 33 percent labor and 12 percent process equipment expenses. For a 50 million gallon per day facility, labor costs rise to 35 percent and process equipment costs consume approximately 22 percent of the total construction costs. This decrease in productivity as the size of a project increases is one reason that plants as large as 50 mgd are seldom built.

Factors which result in decreased productivity in construction of a sewage teatment plant will also affect the cost breakdown as well as the overall costs of the facility. Decreased construction productivity results from a number of conditions, including:

- Poor plant location, e.g., an urban area which would require major pre-construction alterations as well as increased transportation expenses for materials and equipment used
- Poor weather conditions
- Unfavorable geographic location

Lowered labor productivity increases the costs of construction significantly. According to EPA figures, a 10 percent decrease in productivity results in an additional 6.7 percent cost above the original index, whereas a 30 percent drop increases costs by 42.8 percent. When productivity drops by 50 percent, costs escalate by an estimated 62.8 percent.

Lowered-labor productivity is a cost factor in upgrading, rehabilitation, and renovation of an existing sewage treatment plant. For this reason, costs of upgrading a facility in an urban area or under adverse conditions can sometimes be higher than the costs of building a completely new facility. A cost breakdown for upgrading an existing sewage treatment plant is shown in Figure 2. Costs of upgrading will vary with the condition of the original facility, the extent of necessary renovation and enlargement, the location of the plant (which will influence labor and materials costs and availability), and the type of facility being constructed. A large portion of the Construction Grants Program funds have been and will be spent for upgrading existing plants, mostly from primary to secondary treatment capabilities.

Sewer Lines Costs

Costs of sewer line construction depends on whether a new line is being constructed or an existing one repaired. The major cost variable in constructing a new sewer line is materials, because the cost of the pipe and pipe fittings varies greatly. Pipe costs range from about $10.00 per linear foot of 4" diameter pipe to as much as $864.00 per linear foot of 96" diameter pipe. A cost breakdown for construction of a sewer line using 8" diameter reinforced concrete pipe is shown in Figure 3.

Excavation costs will also vary, according to the depth of trench and extent of necessary side supports. Appurtenance variables which will affect sewer line costs include:

- manholes - standard and drop. Costs depend on size, number, and related equipment
- amount of pavement removal and replacement
- necessity of utility removal and reconnection
- amount and depth of rock excavation
- thoroughfare crossings and rights-of-way fees
- special pipe bedding, when necessary.

Costs of repair of leaky sewers and major rehabilitation and replacement of existing sewers will depend on the condition of the existing sewers and the extent of renovation necessary, as well as on local labor and materials costs.

FIGURE 2

UPGRADING, REHABILITATION AND ENLARGEMENT OF A SEWAGE TREATMENT PLANT

COST BREAKDOWN

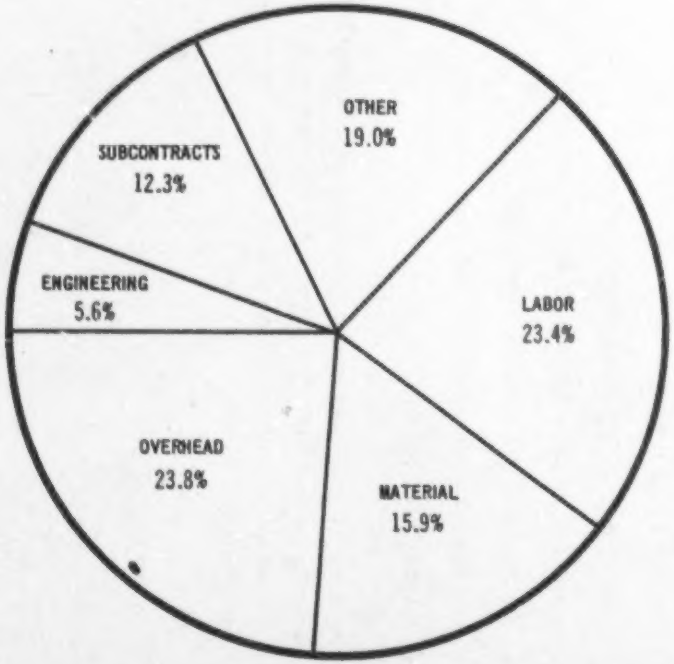
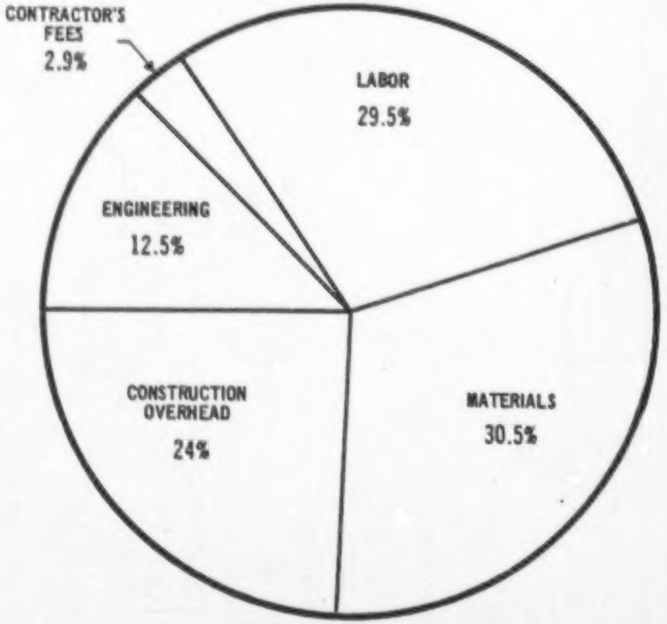


FIGURE 3

IN-PLACE SEWER LINES

COST BREAKDOWN



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Michel, R.L. (EPA): *Construction Labor Utilization in Plants, Interceptors and Collector Lines*, May 5, 1977.

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ELIGIBILITY

President Reagan proposes to eliminate collector sewers from federal funding eligibility. This would mean that state and local governments would be completely responsible for the entire cost of the collector system part of a wastewater treatment system. Some interceptors would also be eliminated.

According to data compiled for the National Utility Contractors Association by Energy and Environmental Analysis, Inc., of Arlington, VA., a small rural community's treatment needs are about 93 percent collector pipes, but a large urban community's collector needs are about 13 percent of total project costs. To cut funding eligibility for collector systems would inequitably penalize small communities.

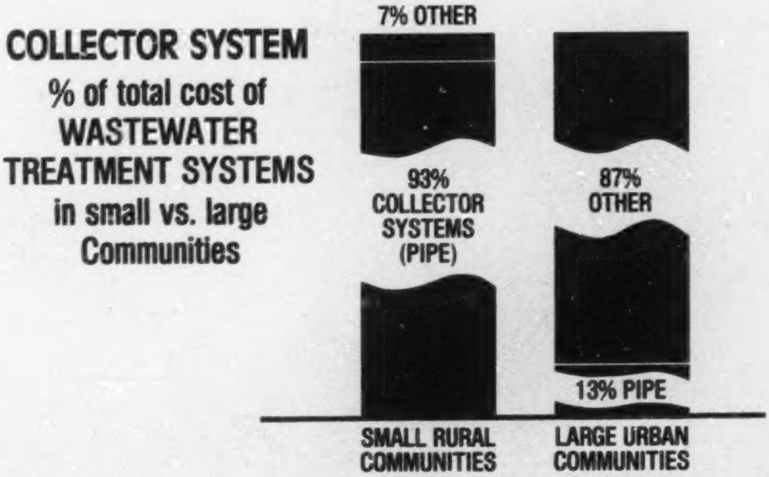
A small community's costs, under the proposed funding scheme would be about $947,000 for a $1 million project. A large community, however, would only be responsible for $347,000 of a $1 million project.

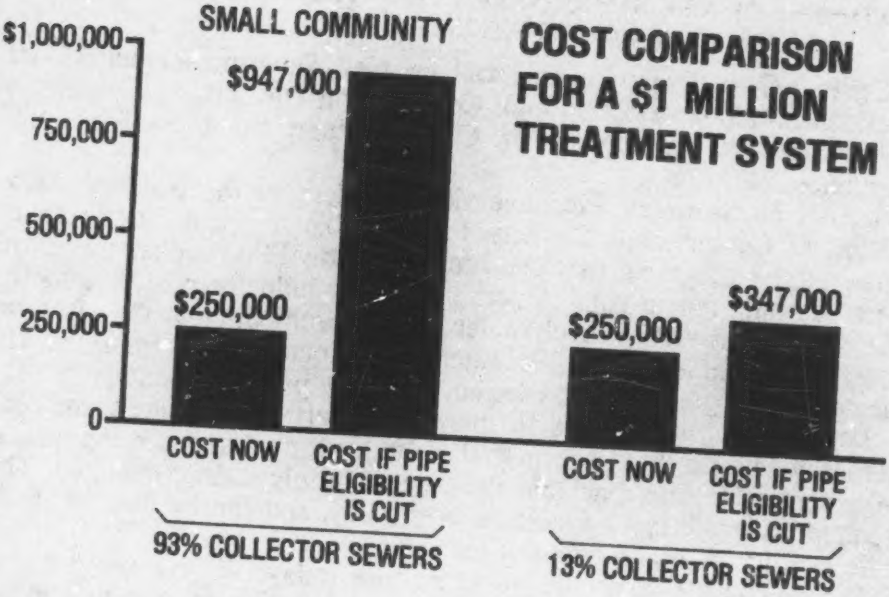
Per capita costs for initial wastewater treatment construction would rise significantly in small communities to $25.00 from $7.00 per person. In a large community, the change would be from 50¢ to about 80¢ per person.

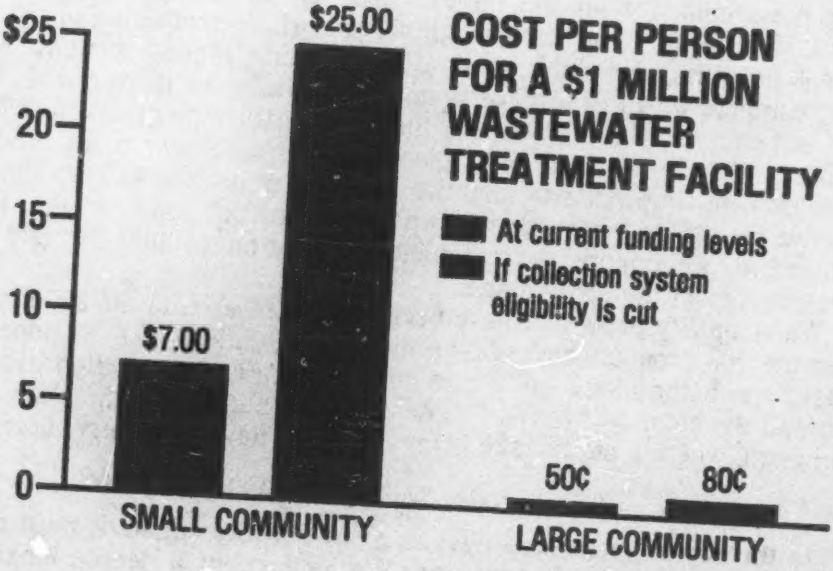
Thus, eliminating collector systems from federal funding eligibility would make the program one for large urban communities only, as small communities would not be able to pay their share of project costs. We believe this would make the program less cost-effective and less environmentally-effective as pollutant loadings would continue to increase in small communities.

Furthermore, a federal decision to cut collector system eligibility would infringe upon the states' rights to evaluate and prioritize their own wastewater treatment needs. States must continue to have the option to chose the pollution abatement methods most cost-effective for their communities consistent with local needs and resources, whether collectors, interceptors, treatment plants or other clean-up processes.

Federal tinkering with the Clean Water Act's eligibility criteria is inconsistent with the Reagan Administration's stated goal of returning as much power as possible to the states.




SMALL COMMUNITY
COST COMPARISON FOR A $1 MILLION TREATMENT SYSTEM
$1,000,000
750,000
500,000
250,000
0
$947,000
$250,000
$250,000
$347,000
COST NOW
COST IF PIPE ELIGIBILITY IS CUT
93% COLLECTOR SEWERS
COST NOW
COST IF PIPE ELIGIBILITY IS CUT
13% COLLECTOR SEWERS


COST PER PERSON FOR A $1 MILLION WASTEWATER TREATMENT FACILITY
▇ At current funding levels
▇ If collection system eligibility is cut
$25
20
15
10
5
0
$7.00
$25.00
50¢
80¢
SMALL COMMUNITY
LARGE COMMUNITY

STATEMENT OF NEIL SAMPSON, EXECUTIVE VICE PRESIDENT, NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS

Senator GARN. Next I would call up Neil Sampson, executive vice president, National Association of Conservation Districts.

Mr. SAMPSON. Thank you, Mr. Chairman, and members of the subcommittee.

I am Neil Sampson, executive vice president of the National Association of Conservation Districts. I would like to speak briefly about three of the programs that are funded in the EPA budget that have been reaching out to rural America to try to help them solve some of the diffuse and very difficult water quality problems that they face on those lands. These are the 208 water quality planning program, the 314 clean lakes program, and the section 106 State program grants.

Let me tell you that we in the soil conservation business are concerned today. All the data shows that the Nation's water is being wasted at a deplorable rate, one that the Nation simply cannot continue. The economic climate that agriculture faces today, and for the foreseeable future, will hasten that waste, not reduce it.

We don't have a sustainable agriculture today. We are going downhill. If we are going to have a sustainable agriculture, one that maintains its strength and productivity in the face of strong demands both at home and abroad, we are going to have to have public assistance for soil and water conservation programs that are realistic, modern, and effective in providing the kinds of incentives that those private businessmen out there need to protect the soil and water resources as an integral part of their farm operation.

We are in a period of cutting back on Federal spending. We think that is essential. We support the President and the Congress in those efforts. What is going on here, we think, is a whole reordering of the national priorities. We don't want to see Federal money spent in ways that compete with the sorts of things that people out there can do better and cheaper. But we feel that the water quality programs, that have taken a decade to come into place, are a place where the Federal Government simply has to maintain a presence in order to keep that initiative going and to achieve what has to be done in the field. Therefore, we oppose the complete elimination of the 208 and 314 programs from the EPA budget.

Water quality plans that have been developed around the country under the 208 program have shown that things, indeed, can be done and they are being done in States and counties, conservation districts around the country. Many of those are being funded by the clean lakes program, where a public lake is involved and have been very successful.

SHIFT EMPHASIS FROM PLANNING TO IMPLEMENTATION

In the 208 program, it is obvious to us that the emphasis must switch from planning to implementation. We have spent a decade looking at what needs to be done. We are satisfied that we have found far more needing to be done than we are capable of doing, even with an intensive reassessment of that program. We think the 208 program should be retained in EPA, that Congress should change its emphasis and encourage implementation. Let's get on with the job, get something done that we know how to do out there.

We don't have any specific recommendations, Mr. Chairman, on funding levels for the hazardous waste management program. Rural people are very concerned with hazardous waste. When those get in their water supplies, on their land, the damage to livestock, crops, drinking water, and other facilities are tremendous. That is a problem that is emerging. It is one that we are going to have to deal with.

We wanted to bring that to your attention as one that we don't think can be ignored in the future. In addition, there is increasing interest around the Nation in disposing of treatment plant effluents, sludge on agricultural land. Where these products are suitable, that is a more efficient and less costly alternative than the tertiary treatment for waste water and can be beneficial to agricultural in rural communities as well.

Our conservation districts are working with many municipalities around the country to help do this job and we think it is important that we continue to encourage that these kinds of opportunities be taken.

I bring these topics to your attention to let you know our people feel clean water issues are still very important around the country, even at a time of restricted public spending. Maintaining a livable environment is neither a luxury nor option; it is essential. It is going to be important to the Congress to continue to provide national leadership for the continuation of effective environmental protection efforts. We think that the work of the States and the conservation districts under such programs as the 208 water quality program, the 314 clean lakes program, have demonstrated that a modest amount of Federal money can spur a great deal of effective local activity and effort on the land. We hope you will find a way even in these difficult economic times to continue to encourage that type of effort.

Thank you very much for your time, Mr. Chairman. I would be happy to respond to any questions you may have.

[The statement follows:]

STATEMENT OF NEIL SAMPSON, EXECUTIVE VICE PRESIDENT, NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS

I come here today because I am deeply concerned. The nation's soil and water is being wasted at a deplorable rate, one which the nation cannot sustain. The economic climate in agriculture, both now and for the foreseeable future, will accelerate this waste, not reduce it. If America is to have a sustainable agriculture, one that maintains its strength and productivity in the face of strong demands for farm products, we must have public soil conservation programs that are realistic, modern, and effective in creating the incentives needed to encourage adequate conservation as an integral part of farm operations.

We are in a period when cutting back on federal spending is essential. We support the President and the Congress in those efforts. There are difficult decisions to be made in making those reductions, and I do not envy you the job of making those decisions.

What must be done is nothing less than a complete re-ordering of the national priorities. Federal money must not be spent in ways that compete and conflict with private enterprise, or that provide benefits that can be safely foregone. We feel that the water quality programs meet these criteria, so we would oppose the complete elimination of the 208 and 314 programs from the EPA budget.

The water quality plans that have been developed around the country have identified nonpoint source pollution sources and shown that they can, in many cases, be greatly reduced through proper local efforts. Conservation districts have been intensely involved in these efforts, many of which have been funded through the Clean Lakes Program. We feel that this program is one of the most effective programs EPA has in implementing nonpoint source pollution control, and it should not be lost.

In the 208 program, the emphasis should switch from planning to implementation. That can be done, particularly through the vehicle provided by Section 208(j), but only if the 208 program is retained in EPA, with instructions from the Congress to change its emphasis. We would encourage you to consider this.

Although we have no specific recommendations on funding levels for the hazardous waste management program, we did wish to bring you our concern for this problem. Hazardous wastes are a growing threat to the water and land needed to produce America's food, and their proper and safe disposal is imperative.

In addition, there is increasing interest around the nation in disposing of treatment plant effluents and sludge on agricultural land. Where effluent and sludge are suitable, this is a more efficient and less costly alternative to tertiary treatment of waste water, and can be beneficial to agriculture as well. Conservation districts are working with many municipalities and others in helping to analyze such opportunities, select sites and manage these disposal systems.

I bring these topics to your attention to let you know that clean water issues are still very important around the country. Even in a time of restricted public spending and economic belt-tightening, maintaining a liveable environment is neither a luxury nor an option. It is essential, and it will be important for Congress to continue to provide some national leadership for the continuation of effective environmental protection efforts.

We think that the work of the states and conservation districts under such programs as the 208 water quality program and the 314 Clean Lakes Program have demonstrated that a modest amount of federal money can spur a great deal of effective local effort on the land. We hope you will find a way, even in these difficult economic times, to continue that effort.

NACD RECOMMENDATIONS ON THE 1981 APPROPRIATIONS ACT FOR HUD-INDEPENDENT AGENCIES

AGENCY AND PROGRAM	FY 1981 Appropriations	FY 1982 Budget	NACD Recommendation
ENVIRONMENTAL PROTECTION AGENCY			
Water Quality Implem. (208)	34,000,000	-0-	35,000,000
Clean Lakes Program (314)	11,000,000	-0-	12,000,000
State Program Grants (106)	51,200,000	53,300,000	55,000,000

There are several programs of the Environmental Protection Agency of interest and concern to conservation districts. The complete elimination of the 208 program and the Clean Lakes Program in 1982 are of serious concern.

Section 208, Water Quality Planning, has done a great deal to initiate a planning process around the nation, particularly in terms of addressing the difficult problems of nonpoint source pollution. It is now time for implementing those plans. Conservation districts have been active in developing cost-effective, workable implementation programs. If the federal effort is abandoned at this point, it is a signal to them that clean water is no longer a national goal. NACD supports the continuation of the 208 program, and the orientation of the program toward implementation of existing plans.

Section 314, the Clean Lakes Program, is designed to control pollution of freshwater lakes, including land treatment of upland areas. The 208 planning process has identified many areas where the Section 314 program is applicable for implementation. The proposed elimination of this program is, in our opinion, unwise, now that solvable problems have been identified. NACD recommends that this program be funded at a level at least equal to FY81 levels.

Section 106, State Program Grants, are used for the support of overall management of state water quality programs. NACD recommends that this program be funded at $55 million. Many states are using a portion of these funds to support local water quality implementation efforts. We feel these efforts are not only paying off in terms of water quality, but also in demonstrating ways in which water quality can be significantly improved by well-designed local efforts.

BUDGET CUTTING DIFFICULT TASK

Senator GARN. In the second paragraph of your statement you say we are cutting back Federal spending, which is essential. I don't mean to pick on you, but after months of testimony from various groups, that is what I have heard from everyone. However, this position often changes when specific programs are being cut. These groups also go on to point out how we have a difficult task and don't envy us that task. I don't know that I have a question as much as just a comment, that making reductions in the budget is a difficult task. The most difficult price we are all paying is inflation. I used to be a mayor and had to deal with projects relating to water and sewer grants. In almost all cases, the greatest difficulty in completing these projects was that by the time we got past the planning process, the costs of these projects had increased over the original estimates. So, although I can sympathize, as witness after witness comes in and says, "We support the President, except for cuts in such and such program." You must realize that there is someone, not only in my own State but across this country, who will be opposed to every cut proposed in the budget.

So, I guess I really don't have a question, but to say that I agree with your statement and that it is a difficult process when you have a Federal budget that has literally run away. The budget has increased by more than $100 billion in the last year without action of Congress but as a result of the automatic escalators built into the system. Only 19 years ago we ran the whole country for $100 billion.

There are a lot of programs that I think are valid. However, I don't see any other way to start getting the overall budget under control than cutting. The worst price we all pay is inflation, and unless we are willing to take cuts and sacrifices in some of the programs that we ourselves like, we will never get the budget under control.

I have had to make cuts in the most sacred motherhood project in the State of Utah, in order to show my sincerity. I recognize you are mainly defending programs, not that you won't accept cuts. However, you don't want total elimination of certain programs.

PRODUCTIVITY THE ANSWER

Mr. SAMPSON. If I could respond, I think it is imperative that we do reorder priorities. I think this is what we support. I think we have to look very hard at those programs which can represent a legitimate investment in the productivity of this country because it is going to be productivity that pulls us out.

Right now, to fail to address the investments that we need in our basic industries of agriculture, forestry, is of great concern to us as we watch productivity taper off. And the costs are out there, too, obviously. But it is that basic productivity of the land and water, Mr. Chairman, that has made this country great. We don't want to see that put off until another day, because if we keep doing that, the costs of producing from a consistently weakened land and water base keep going up. That is inflation right at the roots of our economic system, and no amount of tinkering from there on up through the system is going to remove it. So I am hopeful that our priority-setting task, which is your responsibility and it is a difficult one, will at least focus in on those that are investment, versus spending, and, hopefully, keep some of those investment programs alive until we can get back on our feet in some ways and do a better job.

Thank you very much.

Senator GARN. Thank you very much. We appreciate your testimony.

STATEMENT OF RICHARD B. GLAZER, DIRECTOR, ENVIRONMENTAL AND ENERGY PROGRAMS, ULSER COUNTY COMMUNITY COLLEGE

Senator GARN. Richard B. Glazer, environmental energy programs, Ulser County Community College.

Mr. GLAZER. It is a pleasure to be here today and I would like to thank the members of this committee for providing me with the opportunity to address them.

In the past, you have generously and wisely supported academic and other training within EPA. This training has led to the development of an environmental workforce essential to the proper operations and maintenance of our waste and wastewater treatment plants and the management and enforcement of our air, safe drinking water, wastewater, and radiation control programs.

Unfortunately, although these programs have the support of Congress, the National Academy of Sciences, the American Academy of Environmental Engineers, the National Environmental Training Association, the Water Pollution Control Federation, the American Water Works Association and the professional community, the Office of Management and Budget, and the Environmental Protection Agency, have made the decision to terminate these programs for the 1982 fiscal year.

PURPOSE OF TESTIMONY THREEFOLD

The purpose of my testimony is threefold. One is to make Congress aware of the extremely grave consequences that will result from the present administration's and EPA's policy of allocating zero funds in 1982 for environmental workforce training and development, and the elimination of the National Training Operation and Technology Center from the Environmental Protection Agency.

The second is to make positive recommendations with respect to congressional support of these workforce development programs. The third is to point out that no new moneys are necessary to do this, as approximately $6 billion, under Public Law 92-500, are presently appropriated, but unspent. A small fraction of these funds would be sufficient to assure the continuation of these essential training activities and preserve the worth of the many billions of dollars already spent in the construction of wastewater treatment plants and recovery systems.

Since the passage of the Federal Water Pollution Control Act and its amendments, over $25 billion in Federal funds and many billions more—close to 40 percent of the Federal figure—in State and local moneys have been spent to construct new wastewater treatment plants and systems or to significantly modify existing ones. It is further estimated by EPA that through the year 2000, an additional $35.6 billion in Federal funds will be needed to construct additional plants.

In addition, many millions of Federal dollars have been spent in the development, operation, and regulation of the national pollution discharge elimination systems—NPDES—permit program. It is now clear that this program is on the verge of collapse. The NPDES permit program is the primary regulatory mechanism for accomplishing the objectives of Public Law 92–500. All of the permits, which were to be reviewed every 5 years, were to be issued prior to December 31, 1973. In 1978, the General Accounting Office in a report to Congress noted:

> We found widespread and frequent noncompliance with permit conditions and frequent failure to submit industrial self-monitoring reports which could conceal additional violations and widespread failure to meet the required July 1, 1977, discharge standards.

Nothing has changed.

What is particularly distressing is that over the years, EPA has reported that somewhere between 50 and 75 percent of municipal wastewater treatment plants, at any given time, are violating their permits. The 1980 GAO report noted that:

> Our random sample of 242 plants showed an even drearier picture. For a 1-year period between 1978 and 1979, 87 percent of the plants in our sample violated the effluent discharge limits of their permit. Thirty-one percent were, in our opinion, in serious violation. In addition, 119, or 56 percent, of the violating plants exceeded their discharge permit limits for more than half the year.

When presented with these facts, it is no surprise that the goal of restoring and maintaining the chemical, physical, and biological integrity of our waters has not been achieved. On the contrary, the continuing discoveries of toxic contamination of our waters and drinking water supplies are dramatic evidence that we have yet to achieve our goals of adequately protecting the public health.

The obvious question is, why aren't the plants conforming as they should? What has happened to NPDES and why is it so difficult to identify and control toxics in waterways?

The Hegg report, published in the Journal of Pollution Engineering, gives us some immediate insight. Of 71 predefined factors which could potentially limit the performance of a biological wastewater treatment plant, the top four out of five problem areas were directly related to inadequate training.

The Internal Joint Commissions Committee on the Assessment of Human Health Effects of Great Lakes Water Quality for 1979–80 noted that:

> For optimal operation, there is a continual emphasis on the need to improve plant operator training.

These conclusions have been further reinforced by the American Academy of Environmental Engineers 1980 report to EPA, the WPCF White Paper of 1979, and the December 1980 report by the Subcommittee on Oversight and Review of the Committee on Public Works and Transportation, House of Representatives, which noted that:

> From its inception, the construction grants program has suffered from a serious staffing shortage at all levels * * * be it engineers, chemists, clerks, data processors, or field inspectors, there have simply not been enough qualified and experienced staff to run this complicated multibillion dollar planning, design, and construction effort.

With all this data and reports of continuing facility, system, and program failure due, to a great extent, to the lack of a continually trained and upgraded environmental workforce, it seems incredible that the Office of Management and Budget and EPA would continue their quest to reduce or eliminate training funds to produce the environmental workforce they so desperately need.

During these times of dwindling budgets, lower Federal assistance to the States, and irate taxpayers, it is even greater folly for EPA to expect the States or local municipalities to take on a greater share of this training effort.

As a former supervisor of the town of Rosendale, I know the tremendous tax burden that has been placed on the property owner and how impossible and impractical it would be to expect them to pay more for a wastewater treatment facility that, in all probability, is not performing up to design capability or permit requirements.

At the same time, I would not ask Congress, which is under the same budget stresses as all other legislators and legislative bodies, to appropriate new moneys to fund these training programs. Rather, I would point out that, as of January 1, 1981, a total of $33.3 billion has been appropriated for the construction grants program. Of this amount, $27.3 has been obligated and $18.4 billion has actually been spent. Currently, 4,700 projects valued at $22.6 billion are actually under construction, leaving a surplus of unspent funds of approximately $6 billion. It is from these surplus funds, which in escrow will be wasted away by inflation, that I ask you to take $4.2 million—0.07 percent or 700ths of 1 percent—to fund the skilled workforce necessary to assure that the billions of dollars spent through EPA's construction grants program, the billions more in local—city, town, and village indebtedness—and the many billions yet to be spent, works for us and are not wasted because of OMB's and EPA's refusal, for an infinitesimal fraction of this cost, to continue to fund and train an environmental workforce.

RECOMMENDATIONS

I therefore wish to recommend the following to Congress:

(1) That the budget of $4.2 million as appended to this testimony be funded in its totality from the unspent $6 billion in construction funds money. It is inappropriate to build new plants when we cannot operate the existing ones.

(2) That the following statement be placed either as an amendment to the 1977 Clean Water Act, or into the fiscal year 1982 EPA budget:

"The Environmental Protection Agency under training grants and contracts, sections 109, 110, 111, and 112, will receive $500,000 to provide training grants in support of undergraduate students in water quality monitoring, analysis, and technology and technician level in the specialized curricula developed by EPA grants."

This statement will assure that these funds are received by the proper EPA office to be spent as Congress has willed rather than being distributed arbitrarily as has occurred in the past.

(3) That funding be reinstated for the National Operational and Technology Center so that it can continue to serve as a focal point for coordination, materials and programs development, technical assistance to State and local municipalities, and to provide continual leadership in the training of an environmental workforce. The location of the NTOTC should be a policy decision of EPA.

1978 TESTIMONY

In conclusion, I would like to reiterate my closing statement from my 1978 testimony, as I believe it is even more appropriate now, than it was then:

> As the fiscal officer of my town and an administrator in educational programs, I recognize that funds of all levels are limited and it is, therefore, essential to weigh programs and assign priorities to those which will provide the greatest return for the moneys expended. The moneys being requested here are not of the magnitude that would require financial sacrifices or have a major impact on the overall Federal budget. Rather, because they are so minimal in comparison with other requests, they often tend to be overlooked as too small to be able to accomplish anything of significance. Actually, just the opposite is true, the few millions of dollars spent on manpower training has had a major impact on the worth of the billions of dollars spent on facilities construction and equipment purchases.
>
> As Congress considers these budget requests, it must ask itself these questions:
>
> (1) What sense does it make to spend billions of dollars on pollution control construction and programs if we do not have the trained manpower to operate these plants or monitor these programs?
>
> (2) What will be the results of a zero budget in manpower training on the success of our pollution control programs?
>
> (3) How much money have these programs cost us and how much more will they cost us in the future if our plants, enforcement and regulatory agencies cannot function because of the lack of skilled semiprofessional and professional workers?
>
> It is clear that if Congress does not refund the manpower training programs, it will have spent many billions of dollars on treatment plants, regulatory systems, and major national programs, while denying them the trained manpower that is necessary for these plants and programs to function and to be operational. It seems a shame that, for so little money, we are willing to risk so much.

I wish to thank the members of this committee for their patience, commitment to our environmental programs, and their past support.

Senator GARN. Thank you.

We appreciate very much your willingness to testify. I apologize to all the witnesses for the briefness of their testimony, but when we have 61 witnesses, I know of no other way to handle it.

We do appreciate your coming.

Mr. GLAZER. I understand.

Senator GARN. Is Mrs. Betty Smith here?

Is Mr. Roy Holman here?

We have three more remaining witnesses in this morning's session and none of them are here at the present moment.

We will simply sit and wait until they arrive.

NATIONAL CONSUMER COOPERATIVE BANK

STATEMENT OF ROY L. HOLMAN, PRESIDENT, UTAH-IDAHO FARMERS UNION

PREPARED STATEMENT

Senator GARN. Next we will hear from Roy L. Holman, president, Utah-Idaho Farmers Union, National Farmers Union.

Mr. HOLMAN. Thank you, Mr. Chairman.

Senator Garn, it is a real pleasure to be in Washington, D.C., and have the privilege of reporting to you.

Senator GARN. It was a real pleasure for me to be in Utah last week.

Mr. HOLMAN. I thought I was getting away from the rain. But I didn't manage to do that. [Laughter.]

I won't read the statement because of time.

Senator GARN. We will place your entire statement in the record.

Mr. HOLMAN. That will be just fine.

[The statement follows:]

STATEMENT OF ROY L. HOLMAN, MEMBER, BOARD OF DIRECTORS, NATIONAL FARMERS UNION, AND PRESIDENT, UTAH-IDAHO FARMERS UNION

I am Roy L. Holman, President of the Utah-Idaho Farmers Union and member of the Board of Directors of National Farmers Union. My address is 564 East 3rd South, Salt Lake City, Utah 84102. I appreciate the opportunity to appear in support of continued funding for the National Consumer Cooperative Bank so that it can provide the necessary credit and techincal assistance to strengthen and expand cooperatives which can provide important services to both rural and urban consumers.

The National Consumer Cooperative Bank has been in operation one short year but it is already proving its worth to cooperatives across the country. It would be imprudent to kill it or damage its future effectiveness just as it is becoming the successful instrument for local cooperative endeavor that Congress intended.

As a builder of cooperatives for three-quarters of a century, the National Farmers Union was among the organizations which worked to bring the Co-op Bank into being. Our members in many states are active members of their local and regional cooperatives as agriculture producers. They are ready to make the new Co-op Bank work for them.

In 1977, the Utah-Idaho Farmers Union helped organize a consumer cooperative supermarket in rural Utah. Since consumer cooperatives are relatively new in our area, the private lenders were unwilling to make needed loans. We looked to the Bank for Cooperatives which provides credit and technical assistance to agricultural cooperatives, and the Small Business Administration but did not meet their criteria as qualified borrowers. We finally accomplished our goal by signing personal notes, borrowing a substantial sum from Utah-Idaho Farmers Union and working out an agreement with the wholesaler for our inventory. Today the Utah-Idaho Co-op has over 1,000 member families patronizing their own supermarket.

It is essential to have sources of credit available for consumers who want to work together cooperatively to control costs and help fight inflation. Since the National Consumer Cooperative Bank was opened in 1980, this much needed source of credit is now available.

About three months ago, a group of farmers from Weber County, Utah, asked our state organization to aid them in setting up a cooperative food mill to maintain local competition and to control the quality of the products they consume. Last week a cooperative was formed, the Board of Directors elected, and while I am here today, the downpayment on the plant is being made.

These consumers, through their cooperatives, are presently applying for a loan from the Consumer Cooperative Bank for operating capitol. Credit sources are vital to maintaining competition in our nation's free market system. We believe strongly in the free enterprise system and feel that the cooperative way of doing business is true free enterprise.

Farmers, as you know, are fewer today than at any time in our history and they know that they must work with their neighbors in the towns and small cities of rural America in order to preserve their way of life. Rural communities are often in need of services because it is not profitable or convenient for traditional businesses to provide the goods or services they need. The homesteading spirit of cooperation is as important in rural America as it was to pioneer farmers. Cooperatives can be the community's way of providing its own needs.

It takes time for any organization to begin the tasks it was assigned, to assemble a staff and to establish its working policies and procedures. National Farmers Union has watched with considerable interest the development of the Co-op Bank since the legislation was passed in 1978. In spite of the delay in appointing a board, we believe the National Consumer Cooperative Bank has made very good progress in its first full year of operation.

The Bank now has an experienced, dedicated staff, many of them people who have come from the co-op world where they were members, employees or managers of co-ops. It has established a system of eight regional offices to bring the Bank's services closer to the people it was designed to serve. It has become a partner with other cooperative institutions and organizations in the development of the co-op movement. Its loans have gone to a wide variety of cooperatives.

Although the Co-op Bank has made a decided effort to communicate with rural people and to make its services available to them, it will take time for people in rural communities to take advantage of its services. But there is great need. The very nature of the rural community means that it has a greater shortage of adequate housing, more people whose medical needs are not served, greater poverty although less concentrated than the metropolitan areas.

Cooperatives are also providing medical and dental care, cooperative telecommunication systems, cooperative housing--all are needed in rural America and they are possible solutions to the problems and needs of farmers and small town residents. The first co-op hospital was organized by Farmers Union members in Oklahoma in the 1930s and now health care co-ops are being organized in rural areas. The first cooperative cable television system was organized in a county with no population center over 2,000 people. Cooperative housing can provide reasonably priced homes for retired farmers and others should be developed in our small towns near their families, churches and community friends. Cooperatively owned rural water systems are being considered in some states.

The Co-op Bank has made loans to food co-ops in small towns and cities, to handicraft and producer co-ops in rural areas, to housing co-ops in small rural communities as well as in cities, to health care co-ops, to farmworker co-ops so that they could purchase land and grow crops, to a sport supply co-op which serves its members by mail, to a bookstore which is a co-op, to day care co-ops whose members are parents, etc.

We urge your Committee to provide adequate funding in the FY 1982 appropriations so the Co-op Bank can continue to help rural and urban consumers meet their own needs through development of their own cooperatives.

Thank you for this opportunity to appear before you today.

SYNOPSIS OF STATEMENT

I would just like to mention the importance that we feel for the Consumers Cooperative Bank. I have a real feel for it because we worked for several years to get the original bill passed.

As you know, it did pass by a very narrow margin. Then after it was passed, of course, we have had some experience with the bank.

Prior to—in 1977, prior to the Bank being set up, we did put together a consumer's co-op in rural Utah. It is a supermarket, a fine, modern, very beautiful store. I am well aware of the problems we had in setting that store up because the bank wasn't in operation at that time. We just couldn't borrow money from anyone. I have said before, I got thrown out of every bank trying to get some money to open this business.

We did save money through the farmers union. They came up with $100,000 and said if I would sign personal notes, and then the wholesale house cooperated with us and helped back the other financing. So we did get the store open in 1977; a tremendous operation now.

We have paid a dividend back to our members every year since it has opened, since it has been opened. A great service, we feel, to the consumers. The membership is now approaching between 1,200 and 1,500 members.

So we have had that experience. Getting that put together without the bank, I ended up in the hospital with a bleeding ulcer before we got it done. But we did get it done.

FEED MILL PURCHASED

Then we have been approached by several people in Weber County; the feed mill closed down there some months ago. They approached us to see if we could help them put together another co-op. We had intended to open another store, but decided that maybe this was a project we should look into, which we did. It looked very feasible, the studies did, and so, as of yesterday, we purchased a feed mill. We have applied to the bank for our operating capital for that operation. The feed mill is in Ogden City. It will serve a lot of people in the area, some farmers, a lot of nonfarmers, a lot of people.

As you know, Weber County is very agriculture oriented. So there are people with a horse, a cow, a few sheep, chickens, this type of thing. Being in the city of Ogden it did qualify for a loan from the Coop Bank. That is the route we are taking. They already had our financial statements because we had planned to open another store. So we sent that ahead to the bank. They had done a lot of preliminary work.

Maybe we are too optimistic in making the down payment yesterday on the feed mill, but we had to move. We had a deadline and either we purchased the mill yesterday or we lost it. It was such an opportunity we didn't think we should pass it up.

So we do have a loan pending with the bank. Hopefully, you and your committee would see fit to let it continue in business.

There are others in Tuah who I have talked to who are in desperate need of this money and a way of financing projects. No. 1, there is a trailer court in Logan. As I understand it, the people own their trailer homes, but they don't own the land. The land is now being sold out from under them. These people need money to purchase land so they can put their own trailers on it and be safe. They would form a cooperative to do that, I think a real important project. I understand there is one in Salt Lake with similar problems.

So we feel that there is a great need for this bank for people who just can't get money from any other source. If I had enough experience, I wouldn't be so convinced that there really isn't any other source. The Small Business Loan people wouldn't talk to us, nor would the banks.

So I would be glad to answer any questions you may have on what we have done, or other subjects, if you would like to do that. I would be glad to answer your questions.

Senator GARN. Thank you, Roy. We appreciate your being here.

I think you know me well enough to know that I never beat around the bush. If you are not aware, I want to make you know that I am part of the effort to do away with the Bank.

Mr. HOLMAN. I understand that.

Senator GARN. I didn't vote for the Bank when it was created. Conceptually, however, I don't disagree with what you have said. If the Bank was established to serve only those that had no other sources of funds, then I would not have objection to it.

In your case, I certainly don't doubt what you say, or don't doubt that there are a lot of situations and loans that have been made to people who had no other sources of funds. But, there is also a lot of evidence on the other side, where I think a person's credit standing has been good and they could have obtained loans from other financial institutions.

During the course of the subcommittee's hearings on the Bank's budget request, I found out that there was a furniture store by the name of Scan, which had received a loan from the Bank. Frankly, I had no idea that the store was a cooperative. In most cases, my wife and I can't afford to shop there because the merchandise is so expensive.

I was told by the president of the bank that no money had been loaned to the store. I found out later that, in fact, the Bank had provided a loan to the store. So there are examples, which I think have gone far beyond the original intent of the bank. While I can't disagree in philosophy with what you have described today, I don't feel the Bank has worked as it was envisioned.

Currently, the Senate's position is that the bank would not be allowed to make new loans but would be allowed to service the loans that they have already made. The bank, therefore, would stay in existence for that particular purpose.

Mr. HOLMAN. I am sorry to hear what you are saying about this furniture store. I might mention that as far as we are concerned, and the experience we have had, I am sure that commercial banks, had we been able to borrow the money there, wouldn't have gone into the detail that this bank is requiring of us.

We have had to send them a tremendous amount of information, surveys and the whole thing. So they have been very, very thorough and, of course, I appreciate that. I think they need to be.

Senator GARN. Thank you very much. We certainly appreciate your coming and we are glad that you brought the rain from Utah since it has been dry here. Actually, we need rain in both places.

Thank you very much.

Mr. HOLMAN. Thank you very much. It is a real pleasure to be here.

FEDERAL EMERGENCY MANAGEMENT AGENCY

STATEMENT OF HON. DONALD J. MITCHELL, U.S. REPRESENTATVE IN CONGRESS FROM NEW YORK

PREPARED STATEMENT

Senator GARN. Next we will hear from Donald Mitchell from New York State.

Congressman, we are happy to welcome you to the subcommittee.

Mr. MITCHELL. Thank you, Senator.

I want to thank you, too, for the opportunity to be here. I have a lengthy statement which I will submit for the record.

Senator GARN. I have never known a Congressman or Senator who didn't have a lengthy statement. [Laughter.]

We will put the entire statement in the record.

[The statement follows:]

STATEMENT OF REPRESENTATIVE DONALD J. MITCHELL

I am grateful for the privilege of testifying at this hearing in support of an appropriation to implement legislation I introduced to provide an adequate civil defense system for our nation, HR 1917.

It is my belief one of the most pressing and unmet needs facing our nation is for an adequate civil defense program -- one which is responsive to existing threats and prepares us for future challenges.

To respond to this need, I proposed a comprehensive, seven-year civil defense program. Its cost of approximately $2.6 billion, represents but a fraction of our estimated total defense expenditures for the period covered -- the increase in funding over our present program amounts to approximately 1/10 of 1 percent of our Department of Defense annual budget.

The program I am advancing is one that will give us, for the first time in this nuclear era, the protection we must be assured of as we face our idealogical adversaries who lack our commitment for the pursuit of peace. Simply put, my goal is to help to balance the strategic scales but, if there should be a war, to guarantee the survival of our nation. We have no such guarantee today. It's time we did.

The seven-year plan would concentrate the use of the funds requested for:

*Crisis Evacuation
*Research and Development
*Emergency Operating Centers
*Training and Education
*Management and Coordination

In each one of these critical areas our present civil defense program fails the test of adequacy.

This program was not developed by me, rather it emerged over an extended period of time after protracted study by civil defense experts who have earned respect and a national reputation for their work in this area. It is a product of serious, well-intentioned people who share a concern about our present, have learned from lessons of the past and are determined to prepare us to live in peace. It is the Program D' recommendation of the Civil Defense Workshops which were held in Rosslyn, Virginia in the Fall of 1977 by the Systems Planning Corporation for the Defense Civil Preparedness Agency.

We're in trouble. The Soviets have an excellent civil defense system. We don't. Neither nation had an adequate program in the mid-sixties. But for more than a decade the Soviets have been spending over $1 billion a year on civil defense. We've averaged less than $100 million. They have a three track program: individual protection, community shelters and population evacuation. We have only one, community shelters, and it's in disarray in spite of the dedicated and dogged efforts of many professional and amateur civil defense leaders.

Why is this a problem? Because it destroys the strategic balance. The best hope for peace, we are told, is the maintenance of the strategic balance. There are varying estimates on the effect of an all out nuclear war. If the Soviets have time to put their civil defense program into operation -- three or four days prior to the holocaust -- the results would be far more destructive to the U.S., which doesn't have a plan (over 100 million dead) than the Soviet Union (5-20 million killed). Should we adopt the D-Prime Plan of the Interagency Study on Civil Defense, developed under the aegis of the National Security Council, they estimate we can save up to 85 percent of our population. Should the Soviets target population, they estimate up to two-thirds of our population will be preserved.

Most experts agree we enjoy "rough equivalence" with the Soviets in weaponry. (From my perspective it appears to get rougher each year). But if Soviet weapons have a far greater destructive effect on us than our weapons on them, it's as though they had far more weapons. This makes a mockery of the strategic balance. It doesn't exist.

Once the balance of terror is gone the Soviets have an awesome edge in any confrontation, whether it be at the bargaining table, an act of adventurism in Europe, Africa, the Mid-East or in-all out nuclear war.

It has been said that "eternal vigilance is the price of liberty". Events in Iran and the invasion of Afghanistan have shown that to be true. If Russia is able to grab up one or two more countries, we may be forced into war -- with a strong possibility that the conflict could develop into a nuclear confrontation. Why not provide at least minimal protection for our civilians. Why not teach them to survive?

Why haven't we done something about civil defense? Chiefly because far too many Americans are the victims of three misconceptions -- the first being the "overkill" fallacy, wherein the casualties per kiloton in Hiroshima and Nagasaki are multiplied by the number of kilotons in the world's arsenal. This implies that by some means we can collect the entire target populations in the same density as existed in Hiroshima and Nagasaki, and keep them unwarned and vulnerable. A statement of identical validity is that the world's inventory of small arms ammunition, or for that matter, kitchen knives, can also kill the human population several times over.

Another widely held misconception is that much of the world's population would be destroyed by fallout from a large scale nuclear war. On the Beach reflects how this thinking originated. The National Academy of Science estimates that the long term effect of this fallout would only amount to a two percent increase in the cancer rate over a 15 year period. This increase could be countered by not rebuilding many of the cigarette plants that would be destroyed in such a holocaust.

Finally, victims of the doomsday scenario feel, mistakenly, that survivors of a large scale nuclear war would have to live underground for weeks at a time. Not so, our scientist tell us. An individual can protect himself from the most dangerous type of radiation because it travels like light, in a straight line. A handkerchief, folded over six or eight times, can serve as an effective gas mask to provide protection from the less dangerous type of radiation.

That's the bad news. The good news is it's not too late to do something about it. A relatively inexpensive remedy is to develop a civil defense system of our own. Some of our defense leaders suggest the way to compensate for Soviet superiority (they no longer claim it doesn't exist) is to "retarget" our weapons. "Retargeting" would supposedly balance through civil defense -- the potential saving of American lives rather than the potential destruction of Soviet citizens.

We must begin today to rebalance the strategic equation. How do you deter an attack unless you can convince an enemy that you will win the war that he is starting? I find it doubtful that anyone aware of the strategic imbalance believes we would fire any nuclear weapons if it meant the destruction of our society. Without a civil defense system that's precisely what it means.

Basically, this $2.6 billion program requires the authorization of the Federal Emergency Management Agency (FEMA) to increase from $174 million in 1982 to $487 million in 1988.

For the first time ever the House Armed Services Subcommittee on Military Installations designated D' Prime as the desired program for civil defense in the United States. The $174 million authorized for 1982 represents the first years cost of this seven year comprehensive program

The committee language is an follows, " The level of funding in the authorization of appropriations in subsection (a) represents the first year of a comprehensive seven-year upgraded funding program for civil defense known as the "D-Prime" program, which is based upon the goal of achieving a comprehensive population relocation capability for time of crisis. The program originated in executive branch studies in the civil defense area that provied the basis for Presidential Directive 41, issued in September 1978, and is consistent with the action of Congress in enacting title V of the Federal Court Defense Act of 1950 in Public Law 96-342."

It is my understanding that Mr. Bernard T. Gallagher, FEMA's director, will testify that the President's proposal for civil defense of $132 million will allow a reasonable start on the D' program but only in limited areas. Since the difference between a full fledged beginning and a half hearted start is relatively slight, it seems a shame we can't make an all-out commitment.

The Congress of the United States will spend approximately $225 billion for our offensive capability. Without the $174 million for civil defense we are doing almost nothing to protect American citizens. We learned in our hearing that the Administration program would protect only 5 percent of the American people. At this rate it would take twenty years to complete a civil defense program for all Americans. But, in twenty years -- the year 2000 -- we would have to begin all over again because of the huge demographical changes in the interim period. In other words, at the rate the Administration recommends, we'll never have a civil defense program.

Doesn't it make good sense to spend a little more to provide a plan that would help prevent war, but in the event of war, would help protect all Americans?

I hope your Subcommittee members will join me in implementing the D' program by approving an appropriation of $174 million in 1982 for nationwide civil defense. Our total national defense demands no less.

ADOPTION OF CIVIL DEFENSE AUTHORIZATION SOUGHT

Mr. MITCHELL. I just urge your subcommittee to adopt our House Armed Services authorization for civil defense. We came up with a figure of $174 million and the administration figure, I believe, is $132 million. Our objection to that number was that we are just never going to get a program at that level. We heard testimony last year to the effect that with underfunding it will take maybe 15 or 20 years to get a comprehensive program for the entire Nation. By that time, the demographics would change and we will have to start all over again.

So the $174 million represents the first year of a 7-year comprehensive program called the D' prime program that I know you are aware of. It is the first time that our Armed Services Committee has designated a D' prime program by name as the program to address our civil defense needs.

As you recall, D' prime was the result of an interagency study that President Carter had called for back in 1977 or 1978, I think. I will explain the heart of it in just a second.

I just wanted to make the case for civil defense. Everyone in the country wants peace. I guess we get no argument there. We are told by our leaders to secure peace we must maintain—or to keep the peace we must maintain a strategic balance. We are told also by our leaders that we enjoy something called rough equivalence in weaponry, which means, I guess, that we both have roughly the same destructive capability, but the Soviets have a good civil defense program. We have almost nothing going for us. So they can protect themselves from our weapons and we cannot protect ourselves from their weapons. So, relatively speaking, it is as if they have far more weapons.

In my estimation, it makes a mockery of the strategic balance. It gives the Soviets a definite advantage in any sort of confrontation, whether it be in the Mideast or Africa, South America, or at the bargaining table. You get all kinds of debate about how superior their system is.

COMPARISONS DRAWN

No one seems to deny it is superior, but you get a lot of people estimating how much better it is than ours is. No one knows. But if they just perceive their system as better, we know we don't have anything going for us, it gives them the same kind of advantage. We do know, in evaluating the system, that they are trying 10 times harder. We have about 10,000 involved full time in civil defense; they have over 100,000. We spend about $100 million in civil defense, they spend over $1 billion a year. When it comes to casualties, we get the big numbers. Our experts tell us if there is an all-out nuclear war, the Soviets had time to put their civil defense system in place; they would lose about 15 million citizens and we would lose 150 million Americans, a huge number of casualties. So we have a couple of choices if we want to maintain this balance, if we think that is important to peace.

We can either build bigger, better, more sophisticated destructive weapons to kill their citizens or we can develop the system to protect our citizens from their weapons. This is the chart—I know you have seen it before; I want to introduce it again—that resulted in this interagency study. The figures on the vertical axis represents the percentages of Americans that would survive in an all-out nuclear attack while the numbers on the horizontal axis tell us how much it would cost to develop these various options for civil defense.

At the present time we are at the B level, where if there was an all-out nuclear war, we would save about 30 percent of our population. Seventy percent of Americans would die. This is at the same time that about 15 million Soviets would die.

We just go to D' prime, which our subcommittee opted for this year, that is what the $174 million is in the first year expenditure, we jump up to the high 70 percent for a target population, if they don't go up to 85 percent. This program would cost us about $2 billion more than we spend now over a 7-year period. It should help markedly in preventing war because it will come again and balance the scales, but if there was a war, our experts tell us we would jump from this B option to D' prime and save 100 million American lives. So the cost-benefit ratio, which I know Senators are concerned about, as are House Members, is about $20 in American lives. It is about the best buy we could get as far as I can see.

So I don't know the makeup of your subcommittee. I know the makeup of the majority in the Senate better than I did last year, but almost everyone, whether they are a hawk or dove, can support this program. It is one defense measure that everyone should be for. It is not destructive. It is passive. It is inexpensive. It is preventive. It is protective. It is a good buy. I think it is long overdue, and that is why I am supporting it so wholeheartedly.

Senator GARN. I appreciate your testimony.

I am well aware of the disparities of our civil defense program having been on the Senate Armed Services and the Defense Appropriations Subcommittee. The Soviets are outspending us in so many different defense areas. We have practically no air defense capability remaining. However, they have a very sophisticated air defense system which will, hopefully, defer or prevent activating their civil defense system. At the same time they have increased their strategic weapon systems dramatically over the last decade. In almost every area you want to look at the Soviets are spending far more than we are and have far more manpower involved than we have at the present time. I guess the rationale has been that, due to tight budgets over the last several years, defense-related activities had to be cut back. So I would agree with you that we have not done enough in civil defense. There are many, though, who say that it is an endless pit to even try to cope with catching up with the Soviets in a comparable defensive capability since it will cost billions more than what we are estimating this year.

I certainly appreciate your willingness to testify today and you certainly make some good points on the capability of the United States that we have been looking at for a long, long time.

Mr. MITCHELL. Just one closing observation, that if this $2 billion we are talking about to complete the civil defense program, to get one for all Americans, is just one-tenth of 1 percent, one-tenth of 1 percent of what we are spending offensively to do all the other things, so it is a smidgeon, as they say where I come from. I hope we can support it.

Senator GARN. It is a lot more money in Utah than it is in New York and it is still a smidgeon compared to the total Federal budget.

Thank you very much.

Mr. MITCHELL. Thank you.

Senator GARN. Has Mrs. Betty Smith arrived?

SUBCOMMITTEE RECESS

If not, the subcommittee will stand in recess until 1:30 p.m. today.

[Whereupon, at 11:30 a.m. the subcommittee was recessed, to reconvene at 1:30 p.m. the same day.]

(AFTERNOON SESSION, 1:30 P.M., TUESDAY, JUNE 2, 1981)

NONDEPARTMENTAL WITNESSES

Ms. FISHER. By the authority of the chairman, Senator Garn, I call this hearing to order.

Senator Garn sends his apologies for not being here to start the afternoon session of this hearing. However, he is currently attending the House-Senate Conference Committee on the supplemental/rescission bill. He will be returning as soon as our subcommittee's chapter has been concluded.

The hearings today and tomorrow conclude the subcommittee's regular fiscal year 1982 budget hearings.

During these 2 days we expect to hear from 65 witnesses, 31 of which will present testimony today. Because of the number of witnesses, we will only be able to afford each group 5 minutes for their presentations.

On behalf of the subcommittee, I would like to welcome all of you to this hearing and will assure you that the information provided will be an essential element to the subcommittee's deliberations.

Our first witness for this afternoon is Mr. Richardson.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

STATEMENT OF ROBERT A. RICHARDSON, EXECUTIVE DIRECTOR, HELICOPTER ASSOCIATION INTERNATIONAL

HIGHLIGHTS OF PREPARED STATEMENT

Mr. RICHARDSON. Ms. Fisher, it is a pleasure to be here.

The Helicopter Association International for many years has been a strong supporter of NASA's rotorcraft technology development program. Several of our members have served on and continued to participate in various advisory capacities to NASA and the National Research Council as part of the National Academy of Sciences in the field of rotorcraft research and development. Many of the technological advances of our industry that we have today are the result of previous work performed by NASA. But more needs to be done.

We are beginning to see the U.S. domestic helicopter market penetrated more and more by foreign competition. And the once very favorable U.S. balance of trade in this portion of the U.S. industrial output is diminishing. An expanded research and technology development effort is urgently needed for NASA to help industry keep the U.S. rotorcraft in the forefront of the world market list.

NASA should undertake, on a high-priority basis, a high-risk research and technology development, which industry cannot afford to do within its own resources. Such high-risk research and technology development many times leads to the big payoffs which can move one country or the other ahead competitively.

As an example of what has happened in the past decade, in 1970 the United States produced about 70 percent of the free world rotorcraft dollar volume. Today, its share is approaching 50 percent. A projection of this trend shows that the U.S. percentage will be about 35 percent by the end of this decade and 20 percent before the year 2000. To prevent this from happening, a dynamic NASA research and technology augmentation program in coordination with industry is urgently needed.

In the national interest, it must commence in earnest in fiscal year 1982 in anticipating the possibility of the United States losing a leadership role in rotorcraft if no new R. & D. initiatives are undertaken.

In 1978 a special task force was created by NASA's Office of Aeronautics and Space Technology under the auspices of the National Research Council's Aeronautics and Space Engineering Board and the task force, composed of leading rotorcraft industry experts, including several members of this association, developed a 10-year advanced rotorcraft technology program. This program was envisaged to be a long-term, new initiative research effort by NASA, which was to begin in fiscal year 1980. Its estimated cost over the 10-year period was about $400 million in 1978 dollars, or at an average annual rate in the order of $40 million, which is spelled out in our appendix A.

Today, however, the same program would cost in the order of $600 million at an annual average rate of some $60 million. Unfortunately, this new initiative program, for advanced rotorcraft technology development did not surface in NASA's official fiscal year 1980 budget request to the Congress. Therefore, with the support of the helicopter industry through this association, the Congress appropriated $5 million add-on to NASA's fiscal year 1980 budget which permitted the commencement of the advanced rotorcraft technology new initiative program, albeit on a much more modest scale than was proposed by the 1978 task force.

However, even that limited start on the urgently needed advanced rotorcraft technology new initiative program has not been sustained so far in the fiscal year 1982 NASA budgetary process.

NASA ROTOCRAFT FUNDING INADEQUATE

Appendix B of our written submission outlines our understanding of the status of the NASA fiscal year 1982 request for rotorcraft funding which this subcommittee is now considering as part of NASA's aeronautics budget. We consider the $38 million submitted for the NASA rotorcraft program woefully inadequate in the light of the national interest outlined previously in the statement.

Therefore, in appendix C we have presented the scope which this association, on behalf of the U.S. helicopter rotorcraft industry, believes the NASA retorcraft funding program should be for fiscal year 1982. This program totals $70 million, an increase of $32 million over the amount currently under consideration. This is roughly one-half of the amount that industry considers is needed by NASA for new initiatives in fiscal year 1982 as discussed earlier, reduced only because of the current policy of austere budgetary constraints of this administration with which this industry concurs.

However, we feel that this increase is a sound investment in the national interest for the reasons outlined in this statement. Thus, we urge that NASA aeronautics funding be increased by an amount sufficient to specifically earmark not less than $70 million for fiscal year 1982 rotorcraft program, consisting of $38 million for continuation of the existing program and $32 million add-on as a minimum for its new initiative research effort which should get underway in a dynamic manner in fiscal year 1982.

We consider that a commitment to authorize NASA an average expenditure of some $70 to $100 million annually over the rest of this decade for the research needed for advanced rotorcraft technology development would be more than cost-effective, considering the $10 billion-plus national security annual benefits which may be expected to result.

We shall be most pleased to cooperate fully with the subcommittee and staff in elaborating further our views on the foregoing as may be desired.

Ms. FISHER. Thank you very much, sir.

If I can just ask a couple of very brief questions that come to mind. Why is it that NASA has not been able to provide adequate funding for the rotorcraft program?

Mr. RICHARDSON. That is, perhaps, difficult to determine. If, indeed, they receive the $38 million which has already apparently been authorized and do actually get to spend it, it is still not going to be enough in our judgment.

Of course, our detailed breakdown in appendix C indicates specifically the items that we think need further attention.

Ms. FISHER. You believe that an additional $32 million will be sufficient to allow NASA to undertake new initiatives in the program during fiscal year 1982?

Mr. RICHARDSON. As I pointed out, the industry feels that that is a minimum amount, and in view of the mood of the land, if you will, to hold down spending, the $32 million would be a minimum add-on to do the job.

Ms. FISHER. I am sure your testimony will be helpful to the subcommittee as we consider NASA's fiscal year 1982 budget request. We appreciate your coming and testifying.

Mr. RICHARDSON. Thank you very much, Ms. Fisher.

PREPARED STATEMENT

Ms. FISHER. Thank you. We have received your prepared statement and it will be incorporated into the hearing record at this point.

[The statement follows:]

STATEMENT OF ROBERT A. RICHARDSON, EXECUTIVE DIRECTOR, HELICOPTER ASSOCIATION INTERNATIONAL

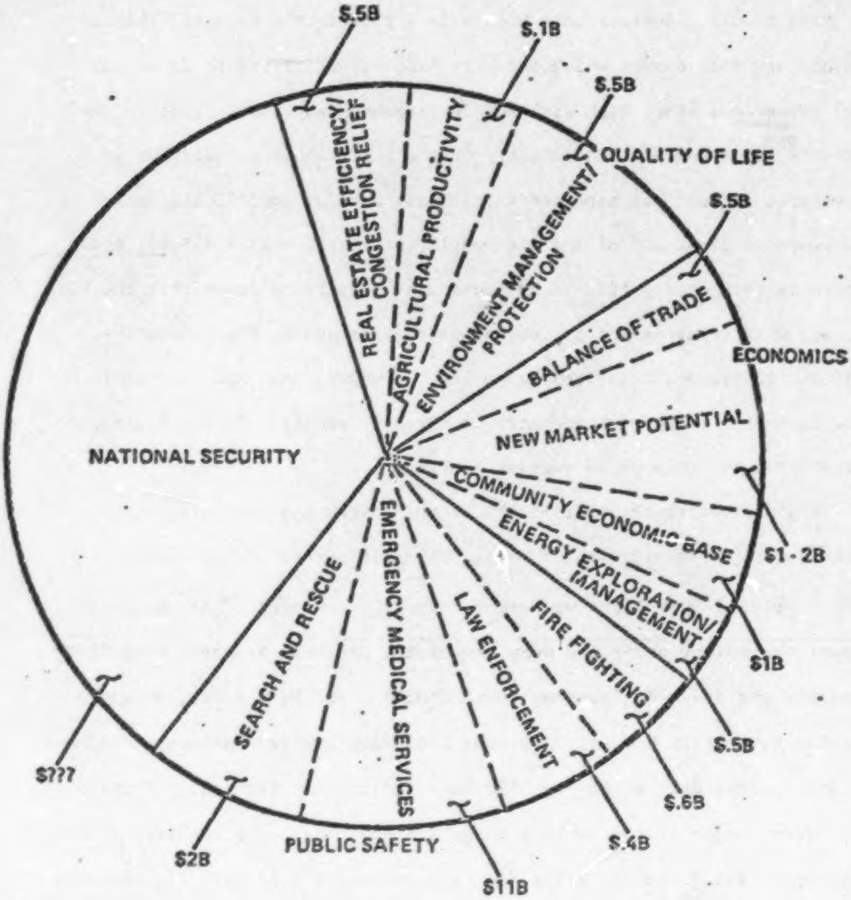
This statement addresses the NASA FY82 budget from the viewpoint of the United States helicopter industry and the FY82 helicopter (rotorcraft) funding support that should be extended to NASA as seen by this industry.

The Helicopter Association International (HAI), formerly called the Helicopter Association of America (HAA), is an independent, non-profit organization, the membership of which consists of all the helicopter (rotorcraft) manufacturers of the United States as well as just about all of the operators of helicopters in this country.

HAI members operate in the fields of agriculture, airlines, air-taxi, construction, executive transport, law enforcement, energy exploration, rescue, logging and in many other civil applications.

During the past ten years the U.S. Civil helicopter industry growth has averaged more than 12% per year. In 1980 the industry employed over 75,000 people in manufacturing and operating. It manufactured some 1,200 helicopters, operated over 8,000 helicopters in the United States alone, and the export value of its products contributed significantly to this country's balance of trade. Gross revenue for 1980 exceeded one billion dollars. By 1990, the goal of the U.S. helicopter industry is to have 20,000 or more civil helicopters in operation, and an annual industry revenue well over three billion 1980 dollars.

It is difficult to assess accurately the dollar value of the many services provided by helicopters, but an analysis can lead to a categorization under four broad headings: QUALITY OF LIFE, ECONOMICS, PUBLIC SAFETY, and NATIONAL SECURITY. As illustrated in the diagram below, it is estimated that annual $20 billion (plus National Security) benefits to the United States could accrue if sufficient attention is given to enhancing helicopter technology and operational capability. It is in this context that we view the funding proposals for NASA which follow.


$.5B
$.1B
$.5B
QUALITY OF LIFE
$.5B
ECONOMICS
NATIONAL SECURITY
REAL ESTATE EFFICIENCY/ CONGESTION RELIEF
AGRICULTURAL PRODUCTIVITY
ENVIRONMENT MANAGEMENT/ PROTECTION
BALANCE OF TRADE
NEW MARKET POTENTIAL
COMMUNITY ECONOMIC BASE
$1-2B
ENERGY EXPLORATION/ MANAGEMENT
$1B
FIRE FIGHTING
$.5B
$.6B
$.4B
LAW ENFORCEMENT
EMERGENCY MEDICAL SERVICES
SEARCH AND RESCUE
$???
$2B
PUBLIC SAFETY
$11B

This Association for many years has been a strong supporter of NASA's rotorcraft technology development program. Several of our members have served on and continue to participate in various advisory capacities to NASA and the National Research Council as part of the National Academy of Sciences in the field of rotorcraft R&D. Many of the technology advances of our industry that we have today are the result of previous work performed by NASA.

But more needs to be done. We are beginning to see the U.S. domestic helicopter market penetrated more and more by foreign competition, and the once very favorable U.S. balance of trade in this portion of the U.S. industrial output is diminishing. An expanded research and technology development effort is urgently needed for NASA to held industry keep United States rotorcraft in the forefront of the world marketplace!

NASA should undertake on a high priority basis the high risk research and technology development which industry just cannot afford to do within its own resources. Such high risk R&T development many times leads to the big payoffs which can move one country or the other ahead competitively. As an example of what has happened in the past decade, in 1970 the United States produced about 70% of the free world rotorcraft dollar volume; today its share is approaching 50%. A projection of this trend shows that the U.S. percentage will be about 35% by the end of this decade -- 20% before the year 2000. To prevent this from happening, a dynamic NASA R&T augmentation program in coordination with industry is urgently needed. In the national interest, it must commence in earnest in FY82!

In anticipating the possibility of the United States losing a leadership role in rotorcraft, if no new R&T initiatives are undertaken, in 1978 a special Task Force was created by NASA's Office of Aeronautics and Space Technology under the auspices of the National Research Council's Aeronautics and Space Engineering Board (ASEB). The Task Force, composed of leading rotorcraft industry experts, including several members of this Association, developed a ten year "Advanced Rotorcraft Technology Program". This program was envisaged to be a long term new initiative research effort by NASA which was to begin in FY1980. Its estimated cost over the ten year period was about $400 million (in 1978 dollars), or at an average annual rated in the order of $40 million (see Appendix "A"). Today, however, the same program would cost in the order of $600 million at an annual average rate of some $60 million.

Unfortunately, this new initiative program for advanced rotorcraft technology development did not surface in NASA's official FY1980 budget request to Congress. Therefore, with the support of the helicopter industry through this Association, the Congress appropriated a $5 million add-on to NASA's FY1980 budget which permitted the commencement of the advanced rotorcraft technology new initiative program, albeit on a much more modest scale than was proposed by the 1978 Task Force.

However, even that limited start on the urgently needed advanced rotorcraft technology new initiative program has not been sustained so far in the FY82 NASA budgetary process. Appendix "B" outlines our understanding of the status of the NASA FY82 request for rotorcraft funding which this

Subcommittee is now considering as part of NASA's Aeronautics budget. We consider the $38 million submittal for the NASA rotorcraft program is woefully inadequate in the light of the national interests outlines previously in this statement.

Therefore, in Appendix "C" we have presented the scope which this Association, on behalf of the U.S. helicopter (rotorcraft) industry, believes the NASA rotorcraft funding program should be for FY82. This program totals $70 million, an increase of $32 million over the amount currently under consideration. This is roughly one-half of the amount industry considers is needed by NASA for "new initiatives" in FY82 as discussed earlier, reduced only because of the current policy of austere budgetary constraints of this Administration, with which this industry concurs. However, we feel that this increase is a sound investment in the national interest for the reasons outlined in this statement.

Thus, we urge that NASA's Aeronautics funding be increased by an amount sufficient to specifically earmark not less than $70 million for its FY82 rotorcraft program, consisting of $38 million for continuation of its existing program and $32 million add-on as a minimum for its new initiative research effort which should get underway in a dynamic manner in FY82.

We consider that a commitment to authorize NASA an average expenditure of some $70 to $100 million annually over the rest of this decade for the research needed for advanced rotorcraft technology development would be more than cost effective, considering the $20 billion (plus National Security) annual benefits which may be expected to result.

We will be most pleased to cooperate fully with the Subcommittee and staff in elaborating further our views on the foregoing as may be desired.

Appendix "A"

NATIONAL RESEARCH COUNCIL TASK FORCE

ADVANCED ROTORCRAFT TECHNOLOGY

PROGRAM FUNDING ESTIMATES

(In FY78 Dollars)

TOTAL PROGRAMS	$398.1
Aerodynamics and Structures	132.5
Aero/Acoustics I	26.0
II	17.5
Vibration Reduction I	20.5
II	15.0
III	15.5
Composite Airframe I	13.0
II	25.0
Flight Control and Avionic Systems	85.1
All-Weather Systems	45.0
Active Control Systems	40.1
Propulsion	104.5
Engine Component Design Methodology	54.5
Power Transfer Technology	26.0
Systems Integration I	24.0
Vehicle Configurations	76.0
High Speed I	20.5
II	25.0
Large Rotorcraft I	12.5
II	18.0

Appendix "B"

FY-1982 SCOPE OF WORK

NASA ROTORCRAFT FUNDING PROGRAM

(in $ millions)

1.	Low-Speed Aircraft R&T Base		10.3
2.	Low-Speed Systems Technology		27.3
	Rotorcraft Operating Systems	1.4	
	Advanced Rotorcraft Technology	10.8	
	Advanced Rotor Systems/RSRA	6.4	
	Tilt Rotor Flight Investigations	2.0	
	Low-Speed Simulation and Flight Systems Support	6.7	
3.	Aeronautical Systems Studies		0.4
		Total	38.0

Appendix "C"

FY-1982 SCOPE OF WORK

NASA ROTORCRAFT FUNDING PROGRAM

Helicopter Association International Recommended FY 82 Budget

(Refer to Appendix "A")

(In $ millions)

1.	Current NASA Programming - Proposed Funding	38.0
2.	HAI Recommended Augmentations	32.0

Note: In recognition of the need for austere budgetary control for FY82, the HAI recommendations are based on an increased R&T effort by NASA considered to be needed in the national interest to initiate the goals outlined in this testimony. Therefore, only a limited number of high priority items are included in these recommended augmentations (specific distribution of appropriated funds to be decided by NASA in coordination with industry.)

a) Improved Rotorcraft Productivity through speed and payload increases.

b) Reduction of Rotorcraft External and Internal noise (includes vibration reduction).

c) Development of advanced composite materials and cost effective applications.

d) Development of all-weather rotorcraft capability, including concept validation of Navstar GPS applications, zero-zero approach and landing technology and low/zero speed instrumentation/displays.

e) Development of technolcgy for operationally feasible and economically viable anti-deicing technology; also icing detection technology.

f) Development of technology needed for fuel efficient, minimum pollution, light weight and high power propulsion systems designed to meet the special needs of advanced rotorcraft.

g) Expansion of heavy lift helicopter (HLH) developments, taking maximum advantage of work done previously in this field.

TOTAL 70.0

STATEMENT OF JOHAN BENSON, DIRECTOR, AIAA WASHINGTON OFFICE

OVERVIEW OF AERONAUTICS

Ms. FISHER. Next, Mr. Benson, please.

Mr. BENSON. Since the time is short, I will get right down to reading an abbreviated statement of our longer one which we have submitted for the record.

First, a brief overview of aeronautics. NASA has played a major role in providing the technology to assure our country's success in both civil and military aircraft development. The recent report by the National Academy of Engineering warns, however, that the dominant world position of our aircraft industry may be in danger. They said:

> Considering the erosion of momentum in U.S. aeronautical technology, the opportunities during the next decade may favor a foreign competitor if this country fails to maintain and improve its technological capabilities in aeronautics.

Thus, I think the handwriting is on the wall. Aviation could be beginning a slide into industrial oblivion just like our shipbuilding, steel, electronics, and the automotive industries.

Presently the aviation industry contributes over $50 billion to the GNP and several billion dollars in taxes. It employs about 1 million people who also pay taxes. They have contributed a net $13 billion to the balance of trade in calendar year 1980. This is the largest of all manufacturing and agricultural sectors.

If we wish to preserve these benefits, we must meet serious challenges that the Academy has warned us about. Some of these challenges are as follows: In the last few years, we have lost about 20 percent of our commercial transport market to European government-funded competitors.

The market share for rotorcraft has decreased by 15 percent in an expanding market. The commuter airplane market is now dominated by foreign manufacturers and aerospace imports increased by 50 percent to $3 billion in 1980. Helicopter imports rose 190 percent.

The Soviet Union is building military aircraft which are, in general, as good as our own. In the light of these facts, the administration's request to cut the NASA aeronautics program by $58 million is exceptionally unwise. We, therefore, support the authorizing committee's recommendations to restore $51 million of these reductions. Even with these restorations, the aeronautics portion of NASA's budget will have declined by 17 percent in constant dollars from the 1980 budget.

IMPORTANCE OF THREE PROGRAMS STRESSED

Because of the time limitations, we wish to stress the importance of only three programs. The first is the supersonic cruise research program. The administration seeks to terminate this program which NASA has described as "the only one in the United States to make informed decisions concerning future military and civil supersonic cruise aircraft."

Second, the large composite primary aircraft structures program. Canceling this new start will have an adverse impact on the development of the next military transport aircraft, the CX, and any new bomber aircraft we may develop.

Another canceled new start is the numerical aerodynamic simulator, an electronic wind tunnel, if you will, which would also represent a giant step in advanced scientific computers. The Japanese Government is preparing to fund a similar facility to make them No. 1 in both fields.

Now to the space portion of the NASA budget. A variety of economic studies over the years has shown a strong positive correlation between expenditures on NASA R. & D. and benefits to the economy.

The space program has already spawned one major industry, communications satellites, which realizes about $1 billion a year in revenues. Others, like Earth resources and space processing, are awaiting their turn.

A Japanese Government committee has recently recommended an increase in space technology development forecasting national revenues of $2½ billion by 1990 and $5 billion by 1995. The Soviet Union has launched 132 payloads into space in 1980. That is compared to 16 for the United States.

Meanwhile, there were no new program starts for the United States in fiscal 1982. The space science budget declined by 20 percent in constant dollars compared to 1980, and space applications declined by 9 percent.

Now, some comments on specific programs.

As a result of a study we did last fall, we believe the demand for a fifth Space Shuttle orbiter is strong enough to proceed with procurement of that vehicle. Our study and other inputs led the previous administration to include $25 million for a fifth orbiter in the fiscal year 1982 budget.

The administration reduced it to $5 million. But we understand that if a minimum of $25 million is provided in the fiscal year 1982 budget for the fifth orbiter, a savings of over $150 million could be made.

The solar electric propulsion system is a major advance in propulsion which will be used with the shuttle to launch sophisticated planetary and Earth orbit missions.

Your committee wisely kept it alive by providing $3 million in 1981. The Senate authorization committees added $4 million in 1982 and we endorse their position.

In the space science area, which has shown us so many wonders in our solar system and beyond, we strongly support the restoration of the U.S. spacecraft in the International Solar Polar Mission. Not only because of the advanced scientific return, but also because of the international implications. Our European partners are complaining at the growing unreliability of the United States as a partner in cooperative programs.

We commend this committee for restoring $14 million for that program in the 1981 budget.

SPACE APPLICATIONS

In space applications, which seeks to harvest practical benefits from our investments in space, the authorizing committee seeks to restore $34 million. We support their recommendations. We believe the materials processing program, which you have supported, to be of particular importance.

A recent GAO report on space processing urges a doubling or even tripling of U.S. funding. The Soviet Union, which is sparing no expense to achieve technological superiority, is said to be spending three to four times as much as we are in this field.

Finally, we are especially troubled by the reduction of 840 people in the research and program management part of the budget. This is a drastic cut. Every effort should be made to see that it is reversed. Because of manpower cuts over the years, NASA has not been able to replace its research manpower and the average age of its research staff, now in the forties, is rising by one-half a year per year. Unless new personnel with new ideas come into the agency, NASA will be increasingly less able to meet the ever-greater challenges that are being made to our aerospace position.

If you look at our great adversary, the Soviet Union, you will nowhere find reductions of manpower and budgets and scientific and technical institutions. You will find quite the opposite. They presently have over twice as many engineers and scientists as we do and they are turning them out at five times our rate. The Stanford Research Institute reported the numbers of Soviet scientists and engineers as compared to the United States in a report issued yesterday.

In View of these facts, it is not surprising to learn that the advancement of science and technology became a key part of Communist Party philosophy at the 24th Party Congress in 1971.

On that occasion, Brezhnev spoke of the task of fusing science and technology with the Soviet economic system as one of historical importance. At the 26th Party Congress in February, he said, "The conditions in which the national economy will be developing in the eighties make acceleration of scientific and technological progress ever more pressing." He said, "There is no need to persuade anyone of the great importance of science and technology.

"The Communist Party proceeds from the premise that building up a society without science and technology is simply inconceivable."

I hope you will be pondering these words as you mark up the NASA budget and as you mark up the NSF budget where funds for science education of about $90 million have been entirely eliminated. What we have tried to say here is, that if you wish to preserve and improve American industry and, therefore, the economy, as well as enhancing the national defense, cutting NASA's budget and manpower is not the place to do it.

Thank you very much.

Ms. Fisher. As I stated earlier, Senator Garn is currently attending the House-Senate conference committee on the supplemental/rescission bill and one of the issues that is being discussed is ISPM. When he returns, we will know what the status of the program will be for the remainder of fiscal year 1981.

Thank you very much for coming. Your prepared statement, submitted earlier, will appear at this point in the printed record.

Mr. RICHARDSON. Thank you very much.

[The statement follows:]

STATEMENT OF JOHAN BENSON, DIRECTOR, AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS WASHINGTON OFFICE

The AIAA, an aerospace professional society of 30,000 engineers, scientists, and students, is deeply concerned by the proposed FY 82 NASA budget, which curtails a number of key areas in both aeronautics and space technology. Whereas we recognize the urgent need for fiscal constraints, these technologies represent investments in the nation's economic future, and their curtailment will prejudice the growth of the new and innovative industrial capabilities which are needed to provide revenues for the future.

First, a brief overview of Aeronautics, the first A in NASA. NASA and its predecessor NACA have played a major role in the past in providing the technology to assure our country's success in both civil and military aircraft development. A recent report by the National Academy of Engineering warns, however, that the dominant world position of our aircraft industry may be in danger. The report states, "Considering the erosion of momentum in U.S. aeronautical technology, the opportunities during the next decade may favor a foreign competitor if this country fails to maintain and improve its technological capabilities in aeronautics." Thus the handwriting is on the wall, and aviation could be beginning a slide into industrial oblivion like our shipbuilding, steel, electronics, and automotive industries.

Presently our aviation industry

- contributes over $50 billion to the GNP and several billion to taxes.
- employs about one million people
- contributed a net $13 billion to Trade Balance
- is a source of pride and inspiration to the nation.

If we wish to preserve and increase these benefits, we must meet the serious challenges to our aeronautical supremacy. Some of these challenges are:

- In the last few years we have lost 20% of our commercial air transport market to European competitors. The A-300 Airbus has been sold to 37 world airlines, 27 of which had only used U.S. equipment.

- The U.S. market share for rotorcraft has decreased 15% in an expanding market.

- The commuter airplane market is now dominated by foreign manufacturers who are making gains in the business jet market.

- Last year U.S. production of military fixed-wing aircraft and helicopters was one-half the peacetime level after Vietnam.

- Aerospace imports increased 90% to 3.1 billion in 1980. Helicopter imports rose 190% in the same period.

- The Soviet Union is building military aircraft which are in general ~~every bit~~ as good as our own; this was not the case ten years ago.

In the light of these facts, the Administration's request to cut the NASA aeronautics program by $58.8 million is exceptionally unwise. We therefore wholeheartedly support the Authorizations Committee's recommendations to restore $51.2 million of these reductions. Even with these restorations the aeronautics portion of NASA's budget will have declined by 17% in constant dollars from the 1980 budget.

Because of time limitations we wish to stress the importance of only three programs:

- The first is the Supersonic Cruise Research Program. The Administration seeks to terminate this program, which NASA described as "the only one in the United States which would have been necessary to make informed decisions concerning future military and civil supersonic cruise aircraft."

- The Large Composite Primary Aircraft Structures Program, a cancelled new start, will have, according to a Defense Department official, an adverse impact on the development of the next aircraft--the C-X. There are insufficient resources in the military aircraft DOD program to take up the slack in this important effort."

- Another cancelled new start, the Numerical Aerodynamic Simulator, an electronic wind tunnel, would represent a giant step in advanced scientific computers. Needless to say, the Japanese government is preparing to fund a similar facility to make them number ONE in computational aerodynamics (the field the computer serves) as well as in advanced scientific computers.

By the way, that European A-300 Airbus that is giving us so much competition, and its follow-on aircraft, the A-310, was designed in part using computational aerodynamic techniques that have led to a 20% fuel savings over the A-300. That will mean a potential savings of $10 billion over a 15-year period for a 400 aircraft fleet.

Now I wish to comment on a few items in the Space portion of NASA's budget, the portion which absorbs about 95% of NASA's R & D money.

- First, a few overview comments: A variety of economic studies over the years have shown a strong positive correlation between expenditures in NASA R & D and benefits to the economy.

- the Space program has already spawned one major industry, Communications Satellites, which realizes about $1 billion a year in revenues and is growing rapidly. Others, like Earth Resources and Space Processing in the next decade, are waiting their turn.

- A Japanese government committee has recently recommended an increase in space technology investment, forecasting national revenues of 2.5 billion by 1990 and $5 billion by 1995.

- The Soviet Union launched 132 payloads into space in 1980, versus 16 for the U.S. They have launched over 4 times as many payloads as the US since 1971.

- There were no new program starts for the U.S. in FY 82.

- The Space Science budget has declined by 20% in constant dollars since FY 80.

- The Space Applications budget has declined by 9% in the same period.

Now I would like to make some comments about programs in several major program categories.

Space Transportation Systems: As a result of a study we did last fall, we believe the demand for a 5th Space Shuttle orbiter is strong enough to proceed with the procurement of that vehicle. Indeed, both NASA and DOD officials are talking of the need for a 6th and 7th orbiter, not to mention a 5th.

Our study and other inputs led the previous Administration to include $25 million for a Fifth Orbiter in its FY 82 budget. This Administration removed all but $5 million of it, and the Authorizations Committee took the rest. We understand that if a minimum of $25 million is provided in the FY 82 budget for the 5th Orbiter, a savings of over $150 million could be made versus a new start in FY 83. We therefore urge the inclusion of $25 million in the FY 82 budget for the 5th Orbiter.

In the Advanced Programs area, the Administration cut $2 million, or 23%, in the revised budget. This area has in real terms declined 44% from FY 80. The House Authorizations Committee added $5 million, the Senate zero. This area defines future programs in manned space activities, such as space stations (the Russians have just concluded over 3 years of such activities in Soyuz 6), advanced propulsion systems and for programs to enhance Shuttle capabilties. We support the $5 million addition.

The Solar Electric Propulsion System is a major advance in propulsion which will be used in conjunction with the Shuttle to launch sophisticated planetary and earth orbit missions. The Administration sought to stop this program in FY 81, but your Committee wisely kept it alive by providing 3 million. In FY 82 the Administration again zeroed it, but the House and Senate Authorizations Committees added $8 and $4 million respectively. We endorse the House's position.

The Space Science area was cut by $172.5 million, or 23%, in the revised budget. Because of this and prior year actions, we are reading press reports on the demise of the Space Science program, a jewel in our scientific diadem. The Authorizations Committee restored $8 million for Shuttle/Spacelab physics and astronomy payload development and suggested re-evaluation by NASA of the cancelled U.S. Spacecraft in the International Solar Polar Mission. The House added $15 million. We strongly support the restoration of the U.S. spacecraft to this mission, not only because of the enhanced scientific return but also because of the the international implications. This was the second major U.S. reprogramming of this mission, and our European partners are complaining of the growing unreliability of the U.S. as a partner in cooperative programs. We commend this Committee for restoring $14.6 million for ISPM in the 81 budget.

The Space Applications area, which seeks to harvest practical benefits from our investments in space technology, was also reduced by 23%, or $110 million, in the revised budget. The Authorizations Committee seeks to restore $34 million of these reductions, and we support their recommendations.

We believe the Materials Processing program to be of particular importance, and we were pleased to see this Committee restore the $3 million cut made in the FY 81 budget. The revised budget for FY 82 now proposes a $4.4 million reduction. Both Authorizations Committees voted to restore $4 million, which we hope you will support.

We wish to bring to your attention a recent GAO report on Space Processing which urges a doubling or even tripling of U.S. funding. The Soviet Union, for example, is said to be spending 3 or 4 times as much as we are are in this field. Materials processing is examining how new and improved materials, chemicals, and biologicals can be produced in the unique environment of space. Many regard it as the next great industry to be spawned by the space program.

The Technology Utilization Program is another activity we believe the Administration has greatly underrated. The purpose of the program is to transfer new knowledge and technology from NASA to non-aerospace industry, in other words to improve the rate of return on the tax dollar. Both House and Senate Authorizations Committees added $8 million to the revised budget for 82, and we applaud your committee's restoration of $2 million to the revised 81 budget.

The Institute also fully supports the addition of funding the UARSE and technology transfer programs by the Authorizations Committee.

The Research and Program Management portion of the budget calls for a reduction in NASA personnel by 840 by the end of FY81. This is a drastic cut and every effort should be exerted to see it reversed. Because of manpower cuts over the years, NASA has not been able to replace its research manpower, and the average age of its research staff, now in the forties, is rising by 1/2 year per year. Unless new personnel with new ideas come into the agency, NASA will be increasingly less able to meet the ever-greater challenges that are being made to our aerospace stature.

If you look at our great adversary, the Soviet Union, you will nowhere find reductions of manpower and budgets in scientific and technical institutions. You will find quite the opposite. They presently have over twice as many engineers and scientists as we do, and they are turning them out at five times our rate.*

In view of these facts, it is not surprising to learn that the advancement of science and technology became a key part of Communist Party philosophy at the 24th Party Congress in Moscow in 1971. On that occasion Leonid Brezhnev spoke of the task of fusing science and technology with the Societ Economic System as one of "historical importance."

At the 26th Party Congress last February, nothing seems to have dissuaded Brezhnev from these beliefs. He said, "The conditions in which the national economy will be developing in the eighties make the acceleration of scientific and technological progress ever more pressing. There is no need to persuade anyone of the great importance of science. The Communist Party proceeds from the premise that building up a new society without science is simply inconceivable." And later, "The cornerstone of scientific and technological progress is the advancement of science. But it is engineering above all that can fling open the doors to the new."

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* A Stanford Research Institute report released yesterday indicates the Soviets had 3.7 million scientists and engineers in 1974 to our 1.6 million.

I hope you will be pondering these words as you mark up the NASA budget, and as you mark up the NSF budget where funds for science education of about $90 million have been entirely eliminated. For a sobering look at advancing U.S. scientific senility I refer you to an article in the Sunday Washington Post by David Savage, "The Growing Science Gap in OUr Schools."

What we have tried to say here, Mr. Chairman, is that if you wish to preserve and improve American industry and therefore the economy as well as enhancing the national defense, cutting NASA's budget and manpower is not the place to do it. NASA and particularly its people are a vital national resource whose budget, if anything, should be increased. And finally, Mr. Chairman, if this nation is to remain strong economically and militarily and to retain thereby our freedom, as well as that of our allies and friends, we cannot do it without a significantly greater investment in science and technology. Few people in government can play as powerful a role as can the members of this committee in ensuring that such an investment is made.

LETTER FROM ROBERT SHAW, MANAGER, NEW BUSINESS DEVELOPMENT, EXXON ENTERPRISES

January 28, 1981

The Honorable David Stockman
Director
Office of Management and Budget
The White House
Washington, D. C. 20500

Dear Mr. Stockman:

In your review of the NASA budgets for FY 1982 and subsequent years, we believe it extremely important for you to consider their implications to the national economy as a whole, particularly the development of both current and future federal revenues.

The AIAA Corporate Associates, a group of about 90 Fortune 500 non-aerospace companies, have explored in great detail over the past two years the utilization of NASA-developed technologies in the products and services we sell in the world's markets. We have found that these technologies are indeed of considerable value to us, and many of us have begun to invest sizeable sums to implement their utilization or adaptation to our service and product lines. Any reduction or cutback in the continued development of NASA's programs would seriously inhibit what we believe to be a major national resource -- both the new "cutting-edge" technologies which lead to new products and the current ones which we can apply directly to make our products and services more useful and saleable, thereby enhancing the overall U. S. economic base.

I would be pleased to visit you at your convenience to discuss these matters. I can cite specific examples of our utilization of NASA technology and tell you about our future plans for space and space-related activities aimed at stimulating corporate growth. At your request, I can bring with me several of my colleagues (whose company names appear in the attached list of AIAA Corporate Associates) to tell you about their own specific applications of NASA technologies.

I will look forward to your early response.

Sincerely yours,

Robert Shaw, Ph.D.
Manager, New Business Development
Exxon Enterprises
(Chairman, AIAA Corporate Associates Committee)

TECHNOLOGY TRANSFER GOAL OF AIAA PROGRAM FOR CORPORATE ASSOCIATES

Non-aerospace companies such as farm-machinery and chemical makers may not fly to the Moon or break the sound barrier, but they think they also know a thing or two about technology. Thus, when AIAA offered to guide Fortune 500 companies through the NASA brainbank, even the eighty that accepted did so skeptically. But after a year of touring NASA centers in the Institute-sponsored Corporate Associates program (see the February *A/A*, page 10) most of these companies believe NASA can teach them something after all. The secret of finding information of value to them: person-to-person contact. Recent testimonials, described briefly here, may help AIAA win a contract from NASA to take the Corporate Associates program another step.

NASA has before it an AIAA unsolicited proposal to start a program to demonstrate systematically the effectiveness of personal consultations and guidance. The contract would allow the Institute to hire a team of experts in aerospace technology to work directly with six or eight companies. Once they confirmed the transfer of information to a company, this team would write a report to NASA for the record explaining the transfer. But thenceforth the information would enter the company's proprietary shield, and the evidence of its value would take the form of continuance in the program at a rate that would reimburse the government fully and fund the Institute for its umbrella services. Director of the program for AIAA, Jerry Grey (AIAA Administrator, Public Policy), estimates that the program would become fully supported by industry as soon as four teams could be established with government seed money.

The industrial organizations like this setup because it lets them decide what information in the public domain serves their purposes.

The Office of Science and Technology Policy and OMB like it because it promises to become a self-motivating transfer of technology to industry.

NASA likes it because it not only brings its R&D products directly into the industrial mainstream but also encourages wider use of the technology-transfer information systems it has established through its contract-supported Industrial Application Centers (IACs).

AIAA likes it because it fulfills its early '70s "technology and society" dream of bringing to bear aerospace technology in a larger arena. When it goes before Congress and argues for greater support of R&T, a successful Corporate Associate program will arm it with fresh evidence of the value of public investment in the field.

At the Global Technology meeting in Baltimore, the Institute summarized its Corporate Associate program experience for its usually dour Corporate Member Committee. They heard three nonaerospace-company technology managers outline results from visiting NASA centers in the Institute-sponsored program. In conclusion they, well, not cheered but did break into more than polite applause.

Of the three managers, Norman Lillybeck, director of materials development for John Deere & Co., was the most enthusiastic. He said the company has assigned a dozen engineers to follow up work seen at NASA centers. Five or six of the technology items they observed, he said, should gain the company three to five years on their previously expected progress.

As one consequence of NASA visits, said Dr. Lillybeck, the company prepared a KC-135 experiment on zero-g casting to explore structural variations of iron. Space experience, he thinks, should allow Deere to resolve remaining casting problems in a sophisticated field, as important to the company as specialty aluminums to the aircraft manufacturers.

Sometime before the AIAA arranged NASA visits, Lillybeck noted, Deere had sent a list of topics of interest to its VP-engineering to NASA centers. The exercise eventually produced a useful literature search, but had an abstract, distant character. In contrast, he said, the AIAA experience "brought NASA down to Earth for us."

Edmond Young, manager of business development for E. I. DuPont de Nemours & Co., said he went into the AIAA Corporate Associate experiment as a flyer, expecting no more than a reading on space processing. "We thought we had followed the field through the literature," he said. as an aftermath of Wernher von Braun's prompting top-drawer industrial firms to take an interest in space processing early in the decade. "Maybe some day," had been the prevailing sentiment among his staff concerning applications. But the NASA visits turned up several "interesting possibilities" for them, and as a consequence, he said, the company has been actively seeking the "right circumstances" for an experimental commercial program and has visited Rockwell International and TRW.

Taking a broader look at Dupont's experience, Dr. Young said, "Either we don't read or NASA doesn't publish. We have had our eyes opened as a result of our visits to its centers. At Lewis I realized we didn't know as much as we thought we did, and ought to, about composite design. The Lewis visit was a significant benefit. At JPL we discovered photovoltaic technology [that we had not realized existed by trying to follow the laboratories] and seeing it first-hand has been important to us." Young summed up his experience by saying an "add-on to the technology-transfer program would be useful to the industry and NASA."

Nathan Kessler, group VP-technical for Staley Manufacturing Co., which processes soybeans and corn, said his company went into the Corporate Associate experiment looking for novel machinery and instrumentation. Although they saw some interesting work on composites and polyurethane foams, they did not turn up anything of real, immediate value. He criticized some NASA research on dessicants as redundant to what existed and had even reached commercialization.

Robert Shaw of Exxon Enterprises said he went on one of the Corporate Associate tours because he was asked what he knew about NASA and had to say, nothing. His company, he said, is looking 10-15 years down the road at new industries. He looked for nuclear-related technologies, particularly on protection of metals, and woke up to the fact that "NASA was working on forefront technologies." "We didn't see anything startling," he said, "but what we did see we considered worth watching and keeping in touch with, particularly concerning materials in space, where we may see end points that define work worth doing on the ground."

In response to a question from AIAA President-elect Joseph Gavin of Grumman, Young of DuPont made this statement, which sheds light on the desire of industrial concerns for privacy in their technical developments and business plans: "Public results are monitored by foreign nations. We want privacy to gain advantage for U.S. industry in the world marketplace. You come out with technology in public and everybody gets it and can run with it, and they don't have the regulation and restraints on U.S. industry; they can proceed immediately to put the technology into effect. In the U.S. it may take years to pave the way [legally] for applications. In this respect has Congress really given thought to a public productivity program?"

Clifford Cummings of Xerox, who chairs the Corporate Associates steering committee, moderated this program and in conclusion summed up the committee's judgment of the experimental years. The steering committee, believing a "technology marketing" effort reaching out to the non-aerospace industry will benefit all concerned, thinks it might serve other federal labs as well as NASA; should eventually be augmented by a pilot program to reach small businesses, perhaps using the county-agent practice of the Dept. of Agriculture, and should experiment with new communication methods. Moreover, he added, the AIAA program gives evidence of promoting a more intensive technical interchange between aerospace and non-aerospace companies.

Some of these attributes have been ascribed to the "generic" technology centers proposed for universities and non-profit organizations by the new Office of Industrial Technology of the Dept. of Commerce (see the May *A/A*, page 28) and recently ratified by the Senate (but still pending in the House in mid-June). Commenting on the bill, its author, Senator Adlai Stevenson (D-Ill.), chairman of the science, technology, and space subcommittee of the Commerce, Science, and Transportation Committee, said, "'Generic research,' like basic research, is not likely to attract funding from individual firms, because they cannot capture the benefits directly. From the standpoint of the general public and the U.S. economy, pursuit of it is valuable, since it allows for the advancement of technology and greater opportunities for innovation."

AIAA hopes NASA will back an experimental program that promises to do that and "attract funding from individual firms," sufficient to create a self-supporting and value-monitoring system. By the September *A/A* the future of the Corporate Associates program should be clear and its initial actions reportable, perhaps under the headline, "On the 'productivity' front AIAA has a winner." J.N.

STATEMENT OF SUSAN KOKINDA, NATIONAL DEMOCRATIC POLICY COMMITTEE

PURPOSE OF NATIONAL DEMOCRATIC POLICY COMMITTEE

Ms. FISHER. Next I would like to welcome Susan Kokinda.

Ms. KOKINDA. Thank you, Ms. Fisher.

I will be careful not to call you "Mr. Chairman." [Laughter.]

We appreciate the opportunity to be here.

Let me first say that the National Democratic Policy Committee is a multicandidate political action committee, sort of a think tank not affiliated with the DNC, which is committed to restoring sort of a moderate-conservative orientation in the Democratic Party. To that end, we have adopted a posture of supporting President Reagan when we feel he is right; letting him know when we think he is wrong.

We think the cuts in NASA's budget, as well as cuts in the R. & D. programs, such as fusion energy development, is the height of folly and it is indeed not why he was elected in 1980.

I will summarize my remarks; hit on two critical points. One is economic, one is military in terms of the importance of not only restoring the budget cuts to the NASA budget, but, indeed, augmenting the program. I might point out that keeping pace with inflation, the NASA budget today should be $14 billion to just be holding its own against what it was in 1965.

On the economic point, as the two previous witnesses, I think, pointed out very adequately, NASA investments are one of the most deflationary investments that the Federal Government can make. Chase Econometrics has a very conservative estimate that every $1 spent in the NASA program returns $14 to the domestic economy. The only real period of actual productivity increases in the U.S. economy, measured not in terms of GNP, which measures apples and oranges, but looks at the actual productivity increase in the actual industrial base—during the period of the mid- to late-sixties it was wholly a result of investment in the NASA program, as well as President Kennedy's tax incentive program.

Why is that the case? The health of any economy is not how many gambling casinos, how much real estate speculation is engaged in, is what the GNP measures, along with everything else, but whether an economy is maintaining its industrial base and, more importantly, laying the basis for surmounting each new research crisis.

We always have resource crises, and the thing that distinguishes man from baboon is his capability to invent new technologies and to develop, if you will, the resources.

The kind of scientific background that the NASA program will give us is precisely the kind of activity we should be engaged in on a much-expanded basis in order to provide our economy and provide our Nation with the scientific knowledge so that we can surmount the apparent resource crisis that we are in at this point.

In fact, I would say in terms of the balanced budget argument so far, that if our budget was out of balance and totally involved, for example, in a NASA program, fusion program, the Export-Import Bank, we would have a much healthier economy than if we had a perfectly balanced budget in which the free market, whatever that may be, was engaged in gambling, real estate speculation, and the like.

The question really is, which way are we helping to direct our economy?

I think that David Stockman, under the guise of balancing the budget, is rapidly bringing the United States into the stage of Great Britain at this point, which is of a formerly industrialized nation. Indeed, I think David Stockman is an advocate of the postindustrial society and his budget cuts have more to do with that bias than with any apparent attempt to restore health to the U.S. economy. That is the economic point.

PARTICLE BEAM CAPABILITIES

The military point is equally interesting. Not only in terms of some of the technologies that the two previous witnesses alluded to, but in terms of the basic scientific breakthroughs that will be determining our strategic health in the coming period, I think everybody knows that the next quantum leap in strategic war fighting capabilities is going to be the development of particle beam antiballistic missile technologies. We are not going to beat the Soviets to the punch by carrying out that research and development in a box in one narrowly circumscribed military research and development effort. Some of the NASA programs, in terms of what we will be learning about the way plasmas work, the Solar Polar Mission, which was referred to already. The NASA flights past Saturn and Jupiter have told us quite a bit about the nature of plasmas. Information which will not immediately directly be relevant, lays precisely the kind of basis we need to develop particle beam capabilities in the coming period.

As the previous witness laid out quite well, I was glad to see him quoting from the 26th Party Congress of the Soviet Union. The Soviets have no illusions about what constitutes strategic capability. They understand that it is a full, across-the-board national commitment to that most advanced form of research and development. They are engaged in that while we are not. I think this is one of the most chilling arguments that is put forward in terms of our strategic situation at this point.

So, in closing, I would like to underscore the fact that we should not only, as I said, be restoring all of the budget cuts for the NASA program across the board, but, indeed, vastly augmenting this program and augmenting other critical areas of high technology research and development.

Thank you.

PREPARED STATEMENT

Ms. FISHER. Thank you very much. We have your prepared statement and it will be printed in its entirety in the hearing record.

[The statement follows:]

STATEMENT OF SUSAN KOKINDA FOR THE NATIONAL DEMOCRATIC POLICY COMMITTEE

Thank you Mr. Chairman. I appreciate the opportunity to appear before this Committee to testify on the FY 1982 National Aeronautics and Space Administration budget.

The National Democratic Policy Committee was formed in August, 1980, at the urging of Lyndon LaRouche, who today chairs our advisory council. We are a multi-candidate political action committee, and also a policy formulating body. We provide an alternative to think tanks like the RAND Corp., Brookings Institution, Heritage Foundation, etc., in terms of policy and program development, and put forward policies which we believe will bring the traditional farm, labor and business base of the Democratic Party back into politics once again. We are open to working with the Reagan Administration on a bi-partisan basis wherever their progam fulfills the election mandate they have received for a policy of economic growth.

Unfortunately, the proposals prepared by David Stockman for the Administration's FY 1982 NASA budget, if not changed by the Congress, will be a disaster for the Nation. The delay, deferral or cancellation of crucial scientific and technology programs will set back the U.S. space effort in a way that will be difficult if not impossible to recover from. The policy implications of such cuts for the U.S. economy are even more monstrous.

A scientifically based economics, as opposed to the mere opinion passing for economics today, is essentially the science of technological advance. The resource base of an economy and its ability to increase its potential for expansion is infinite. The arguments of the neo-malthusians and the proponents of the "Global 2000" perspective that population reduction must become a national security concern because resources are "finite," are only the case where an economy becomes trapped in a given technological mode, exhausts the resources for that given mode of production, and undergoes "thermodynamic death," i.e. is a doomed economy. A viable economy is one whose technological advances enable it to redefine and expand its notion of resources. These technological advances necessarily are predicated upon fundamental advances in the mastery of the laws of the universe which allow man's increasing mastery over and ability to command nature. The NASA program is an outstanding example of an investment that provides both a several-fold return in technological advances to the economy, and an essential contribution to man's knowledge of basic science and fundamental laws of nature.

Let me say at this time that what Mr. Stockman proposes as a return to "free market economy," as programs which are no longer "weighted" by government intervention, and which will supposedly return the economy to health, is a total fraud and a hoax. Mr. Stockman's proposals are weighted. He is an advocate of a "post industrial economy" outlook, an outlook embodied in a number of reports developed by the Carter Administration such as the "Global 2000" and the "Agenda for the '80's" reports. His proposals and cuts are not "across the board," are not "neutral." They are weighted to bring about the Post Industrial Society which he advocates. Mr. Stockman is deliberately intent of dismantling the necessary protective mechanisms of the productive sector, those crucial programs involving infrastructure, R and D, and credit programs essential to a healthy, growing economy.

To point out what the intentions of Mr. Stockman are, let me quote from one of his mentors, Professor Daniel Bell, who was a professor of Mr. Stockman's and author of the 1973 book, "The Coming of the Post-Industrial Society:" "Stockman," said Bell, "has maintained a consistent outlook dating from his student days...as a believer in the post-industrial thesis. Stockman's idea is to remove all government impediment to the post-industrial society, and let market forces take care of the rest.... Unfortunately, David Stockman cannot talk openly about his post-industrial ideas in his current environment. But we have done pretty well....A particular post-industrial barometer is Stockman's cuts in internal improvements and related programs...." I have attached an addendum to my testimony, an article on Stockman and the "Global 2000" policy by Christopher White in the Executive Intelligence Review March 17, 1981, which I would call to the Committee's attention.

It has been conservatively estimated by economic analysis firms such as Chase Econometrics that for every dollar invested in NASA R and D, fourteen dollars was returned to the civilian economy. The government can make no better investment in the Nation's future. To cut $ 604 million dollars from this avenue of advanced R and D funding means the government is making the conscious decision to stifle the development of the technologies this Nation will need in the next decade to compete internationally economically, and every other way.

There has been only one significant period of productivity rise in the U.S. economy in the post-World War II period, from 1959 into the mid 1960's, which was due to the NASA program in combination with the investment tax credit policy adopted by the Kennedy Administration. It has been due in large part to the stifling of the NASA program over the last ten to 15 years that productivity in our economy is a disaster today.

To cite just one of numerous examples, the NASA cuts will virtually gut the Agristars project to develop accurate and timely crop monitoring capabilities by satellite. The Agristars project's demise will mean the loss of a capability essential to continued productivity rise in this area.

The United States is also on the verge of losing its international cooperation agreements with the European Space Agency. During testimony before this committee on March 11, Mr. E. Quistgaard stated to the Members that the United States has become an "unreliable partner" in international space cooperation due to its cancellation of joint projects already underway.

This international cooperation, which saves NASA and the American taxpayer hundreds of millions of dollars, is critical for future commercial and industrial space ventures as well as scientific discovery.

The national security implications of a constricted space effort is clear. Even though some NASA programs that are directly tied to important Defense Department requirements, such as the Space Shuttle, have been saved from cancellation because of their national security implications, the phase-out of basic scientific research work and technology development will cripple our ability to develop the next generation of weapons systems that will spin off of a mastery of advanced plasma physics.

If NASA had the same capability that it did in 1965, the budget would be about $14 billion. This constriction of NASA over the years has meant that precious teams of scientists at NASAs laboratories are working on non-space and non-critical research for other Federal agencies because laboratory directors have correctly hoped to keep them employed so as not to lose this important resource. We must start re-building our scientifically trained manpower base in the country, not allowing futher skills to be lost.

Many admit that if the Apollo moon landing had to be done today, NASA would not be able to replicate it in the nine years it took in the 1960's. Most also realize that we are not alone in space. The Soviets, French, Japanese, Indians, and the European Community as a whole, will push ahead whether we do so or not. The advocates of "Global 2000" and the "Post-Industrial Society" propose to turn the United States into a "lesser developed" Nation. An adequately funded, aggressive NASA program is the best rejection of that outlook, and one that will maintain the U.S. at the forefront in science, technology and space.

NATIONAL CONSUMER COOPERATIVE BANK

STATEMENT OF THOMAS R. STITT, EXECUTIVE DIRECTOR, NATIONAL ASSOCIATION OF HOUSING COOPERATIVES

Ms. FISHER. Our next witness is Thomas Stitt.

Mr. STITT. Thank you.

Ms. FISHER. I don't know if you were here earlier, but I apologize for Senator Garn not being here. He is attending the House-Senate conference committee on the supplemental/rescission bill and he should be returning in approximately 45 minutes.

Why don't you proceed?

Mr. STITT. Thank you.

I thank you for this opportunity to present testimony on behalf of the Housing Cooperatives and state our support for the continuing operation of the Co-op Bank.

HIGHLIGHTS OF STATEMENT

My name is Tom Stitt. NAHC is a consumer trade association here in Washington, representing about 100,000 member families living in housing cooperatives in 45 States.

Rather than spend time responding to the issues raised in the committee report, I think I want to limit my remarks to some issues which I think are fundamental to defending the need for and legitimacy of the Co-op Bank.

My first point is that housing co-ops have had certifiable evidence of creditworthiness, yet, historically, have had difficulty gaining access to mortgage credit on conventional market rate returns. Individual members of housing cooperatives have experienced the same difficulties. The problem is not one of discrimination or redlining, rather one of specific legal and structural issues which are unfamiliar to most private lenders. The issue is that in housing for individual co-op levels, co-op units, the security for them is personal property rather than real estate. This creates all sorts of problems for lenders. The result has been an exceedingly slow process toward acceptance of cooperative loans by private lenders.

For example, the first housing cooperative was built in New York City in 1924, but the loans to finance cooperative homeownership were not authorized by the State of New York until 47 years later, 1971. I think this example really demonstrates the two major problems. The first is, lenders tend to assume loans to co-ops and members have to be made on a concession basis. It has to deviate from the standard of underwriting practices. I think, really, what is there is lack of familiarity with standard cooperative operating procedures and the relatively small share of the cooperative housing industry makes it a less exciting prospect to certain private lenders.

The second, perhaps the more important problem, is the real and perceived risks of entering the new lending market. Private lenders view co-op loans with uncertainty because they have limited direct experience and they are concerned about the unique underwriting requirements. They wait for the lender to make the loan while they evaluate the performance and profitability from a safe distance.

The Co-op Bank fills that vacuum. It is a facilitated loan with participation from private mortgage credit institutions. For a nominal cost, the bank provided 5,000 units of limited equity co-op housing. I think the bank in doing that has really provided a showcase for the private sector, something they can sit back and watch safely from a distance, and choose or participate with lessened risk.

TWO KEY CONGRESSIONAL MISSIONS

Some of the critics of the Bank suggested that a small Washington-based lending institution could originate or service loans on a profitable basis. I think these critics tend to overlook some of the fundamental parts of the Bank. Besides serving as a demonstration lender, the Bank has two key congressional missions: One is to encourage cooperative economic development among low-income people. The second, to educate American consumers about cooperatives. I guess my point is the Bank is more than a lender; it is a demonstrator, a catalyst for economic development action, and an educator.

I think a private lender charged with those responsibilities would experience some of the same problems which the Bank has to accept as part of its everyday environment.

The Bank was really never intended to be a mirror for the private commercial housing credit institutions, either. Performance measurements have to go beyond return on investment, those criteria normally applied to private lenders.

In closing, I want to hit three other points. One is the Bank has pioneered new types of housing-related development through mortgage loans. Specifically, I mention in the testimony a mobile home cooperative out in California modeled after one of the first out in Ogden, Utah. As far as I know, this is one of the first examples of cooperative homeownership in a mobile home community.

The second thing I mentioned earlier is the Bank has developed standard forms, standard documents, standard procedures which other lenders can and are using. It is making housing cooperatives a little bit less unique and, hopefully, will gain acceptance in the conventional credit market as a result.

The Bank is also creating homeownership opportunities for a broad income spectrum of Americans. I think as demand for homeownership rises, tenant-sponsored cooperative conversions, which the Bank has really perfected the art of underwriting and servicing, will become more and more important.

The last point is that the two advisory groups that the administration has recognized the potential of housing cooperatives in their initial reports. The Housing Policy Task Force chaired by Carla Hills, Neighborhood Advisory Group, chaired by Dr. Hawkins, both recognize housing cooperatives as a viable part of the administration's housing strategy and recommended them strongly.

We believe that the Co-op Bank is presently equipped to work with the Congress and the administration toward its housing policy goals.

We would urge the members to let the Bank continue as an effective partner in this effort.

Thank you.

Ms. FISHER. Thank you.

When the previous witnesses were testifying on some issues dealing with NASA, I said by the time Senator Garn gets here, we will know what decision has been made concerning the supplemental/rescission bill. As you know, the Bank is one of the issues in the conference.

On April 16, 1981, there was an article in the Washington Post concerning the Bank. In that article, the chairman of the American Bankers Association's lending division indicated that creditworthy co-ops could get loans from commercial banks. Would you comment on that article, relative to loans for housing cooperatives. Do you really think that individuals cannot get loans from private lenders for housing cooperatives but have been successful in securing loans from the Bank?

CO-OP GAINING ACCEPTANCE AMONG PRIVATE LENDERS

Mr. STITT. I guess I need to divide the question into two parts. In terms of individuals obtaining financing for purchases of memberships, the Bank is really not in that business. The Co-op Bank is not in that business. There is increasing acceptance in the private sector for those loans because the people who seek them tend to be of incomes that qualify them. I disagree with the assertion that the private lenders are ready and receptive to tenant-sponsored co-op conversions. I can think of one example here in Washington, Town Center Co-op in Southeast, which was by no means a low-income community. The tenants there made the decision to go ahead and purchase the property from the owner and visited no less than seven local lending institutions with a viable financial plan which was not accepted. They finally went to the Co-op Bank, the Bank did accept that same plan, which had been presented to these other lenders. So experience tells me that it is not happening. I see more and more interest among the private lenders in co-op housing. I think it is becoming less and less a foreign concept to them.

PREPARED STATEMENT

Ms. FISHER. Thank you. We have received your prepared statement for inclusion in the printed record.

[The statement follows:]

STATEMENT OF THOMAS R. STITT, EXECUTIVE DIRECTOR, NATIONAL ASSOCIATION OF HOUSING COOPERATIVES

Mr. Chairman, Members of the Subcommittee, I thank you for this opportunity to present testimony today on behalf of housing cooperatives and to state our support for the continued operation of the Co-op Bank. I am Thomas Stitt, Executive Director of the National Association of Housing Cooperatives. NAHC represents over 100,000 members of US housing cooperatives in 45 states.

Rather than spend time responding to the various operational issues raised in the 1981 Supplemental Appropriations and Recissions Committee report, I will limit my remarks to those concerns which our Association considers fundamental to defending the need for and legitimacy of the Co-op Bank.

Housing cooperatives with certifiable evidence of creditworthiness have historically had difficulty gaining access to mortgage credit on conventional market rate terms. Individual members of housing cooperatives have experienced the same difficulties.
However this difficulty is less a problem of 'discrimination' than a problem of specific legal and structural issues which are unfamiliar to most private lenders. Determining value, adequacy of collateral, and assessing the effectiveness of management in a cooperative all require an indepth understanding of the cooperative corporate structure.

The result has been an exceedingly slow process of acceptance for cooperative loans from private lenders.

The first housing cooperative in New York for example was developed 1924. But loans to finance cooperative homeownership were not authorized by the State until forty seven years later in 1971. Demand for cooperative mortgage credit is not limited to New York and is increasing nationwide. The problem is really two-fold:

First, lenders often assume that loans to cooperatives and members must be made on a 'concession' basis. A 'concession' loan deviates from a lenders underwriting standards. Lack of familiarity with standard cooperative operating procedures and the relatively small market share of the cooperative housing industry all contribute to this assumption.

Second, the real and perceived risks of entering a 'new' lending market creates a kind of "chicken and egg situation." Private lenders view cooperative loans with uncertainty because they have limited direct experience and are concerned about the unique underwriting and security requirements. They wait for another lender to make the loans while evaluating performance, costs and profitability from a safe distance. The result is that with few lenders active in cooperative loan origination, secondary markets and private mortgage insurers are reluctant to develop and offer complementary programs which would encourage additional originations.

The Co-op Bank fills that vacuum and will continue to facilitate loan originations and participations from private mortgage credit institutions for housing cooperatives. For the nominal costs to the federal government of and capitalizing the Co-op Bank, 5000 affordable homeownership opportunities have been generated to date with more in the pipeline. The Co-op Bank provides a sort of 'showcase' which the private sector can observe and, when ready, choose to participate in cooperative housing loans.

Some critics of the Co-op Bank have suggested that a small, Washington based lending institution could not originate and service loans on a profitable basis to borrowers who are generally assumed to be marginal. The assumptions made by these critics overlook fundamental aspects of the Bank. Besides serving as a demonstration lender for the private credit providers, the Bank also has certain Congressionally chartered missions:

>to encourage cooperative economic development among those of low income.
>to educate American consumers on the benefits of consumer cooperatives.

The Co-op Bank is more than a lender. It is a demonstrator, a catalyst for economic development and an educator. A conventional private lender charged with these responsibilities would experience the difficulties and business realities which the Bank accepts as part of its normal client environment. It is unlikely that a private lending institution would ever be created and capitalized in the same manner as the Co-op Bank. The risks would far exceed the potential return on investment.

The Co-op Bank, however, was never intended to be a mirror of the private commercial and housing credit institutions. Performance measurements for the Bank must go beyond 'return on investment' to have validity when tested against the intent of Congress in chartering the Co-op Bank.

In closing I would like to point to a few of the often overlooked potentials of the Co-op Bank in the housing area.

1. Pioneering new types of housing related development through mortgage loans.

   One of the first mobile home park cooperatives, Millcreek Mobile Homeowners, Inc. in Ogden, Utah has served as a model for other residents of mobile home communities. Cooperativa Santa Elena in Soledad, California will provide 100 spaces for cooperative mobile homeowners through a loan from the Co-op Bank. As more Americans choose manufactured housing for its affordability and flexibility, cooperative parks can provide safe, resident owned and controlled environments.

2. Developing standard forms, documents, procedures, and underwriting guidelines for housing cooperatives.

   By making cooperative loans less 'unique', greater acceptance in conventional credit markets should result.

3. Creating affordable homeownership opportunities for a broad income spectrum of Americans through controlled resale housing cooperatives.

   As demand for homeownership rises in areas with increasing family formation, tenant sponsored cooperative conversions offer a non-regulatory mechanism for making more effective use of existing housing stock while minimizing or avoiding involuntary displacement.

Two advisory groups to the current Administration recognized the potential of housing cooperatives in their initial reports. Both the Housing Policy Task Force (Carla Hills, Chairman) and the Neighborhood Advisory Group (Dr. Robert Hawkins, Chairman) recognized housing cooperatives as a viable strategy for increasing homeownership among lower income Americans and addressing the future disposition of federally owned and assisted housing.

The Co-op Bank is presently equipped to work closely with the Congress and the Administration on its housing policy goals. The National Association of Housing Cooperatives strongly urges the members of the Subcommittee to let the Bank continue as an effective partner in this effort. Thank you for your time and consideration.

STATEMENT OF STEWART KOHL, DIRECTOR, CONSUMER CO-OPS, COOPERATIVE LEAGUE OF THE USA

MAKEUP OF CO-OP LEAGUE

Ms. FISHER. Next, Mr. Stewart Kohl, please.

Mr. KOHL. Thank you.

I appreciate the opportunity to be here today to urge your support for the National Consumer Cooperative Bank.

My name is Stewart Kohl and I am the director for Consumer Cooperatives at the Cooperative League of the USA—CLUSA. The co-op league, founded in 1916, is the national membership and trade association for all kinds of cooperatives. Our membership includes America's farm supply, farm marketing, rural electric and telephone, credit, housing, food, student, consumer service, day care, memorial, fishing, health care, and other types of cooperatives.

Together our cooperatives serve over 40 million Americans of every race, age, income class, and ethnic group residing in all 50 States. We believe that the co-op way of doing business is a good way to do business.

I have included as an attachment to this testimony selected statistical information on the numbers and types of cooperatives in the United States in 1980. I urge you to look at these numbers to see just how many Americans benefit from cooperatives.

The development of rural cooperatives, especially farm marketing, farm supply, rural electric and telephone, far exceeds the development of consumer cooperatives. Only 1.3 million of our consumers are able to buy food and other consumer goods in cooperatives, and only 550,000 families enjoy the advantages of housing cooperatives. Although cooperation has become a way of life in most rural areas, where many farmers belong to seven or more cooperatives, the situation is not the same in our urban areas.

One of the key reasons for this difference has been the existence of the Farm Credit System and its Banks for Cooperatives. These banks gave cooperatives credit when others refused. Farmers have also long received technical assistance from the Department of Agriculture. Today our farmers and their cooperatives are the world's most efficient at providing inexpensive food as well as foreign exchange for this country.

There were many doubters when the Farm Credit Banks for Cooperatives were proposed during the Depression. Many of the same criticism now leveled at the Consumer Co-op Bank were launched at the Farm Credit Banks for Cooperatives when they were first created.

Today, the success of our farmer cooperatives, and the success of their Banks for Cooperatives, which have repaid every penny of Government capital and are 100-percent owner operated and controlled, stands as a tribute to the wisdom of those cooperative leaders both in and out of Congress.

PURPOSE OF BANK

In 1978, Congress chartered the National Consumer Cooperative Bank. It created the Bank in order, as the preamble states:

> To provide consumers a further means of minimizing the impact of inflation and economic depression by narrowing the price spread between costs to the producer and

> the consumer of needed goods, services, facilities, and commodities through the development and funding of specialized credit sources for, and technical assistance to, self-help, not-for-profit cooperatives * * *

In its statement of findings and purpose, the 95th Congress went on to assert that:

> * * * the Nation has been experiencing inflation and unemployment together with an increasing gap between producers' and consumers' purchasing power. This has resulted in a growing number of our citizens, especially the elderly, the poor, and the inner-city resident, being unable to share in the fruits of our Nation's highly efficient economic system. The Congress finds that user-owned cooperatives are a proven method for broadening ownership and control of the economic organizations, increasing the number of market participants, narrowing price spreads, raising the quality of goods and services available to their membership, and building bridges between producers and consumers, and their members and patrons.

The motives for creating the Bank are as real today as they were in 1978. We continue to suffer from high inflation, high unemployment, and low productivity. We all hope that the President's program for economic recovery will be able to solve these long-term problems. In fact, cooperatives are the ideal partners in this program for economic revitalization.

When the President states that the "creativity and ambition of the American people are the vital forces of economic growth," those of us active in cooperatives applaud because co-ops are made of the same stuff. And when the President promises that, "The goal of this administration is to nurture the strength and vitality of the American people by reducing the burdensome, intrusive role of the Federal Government," cooperatives generally approve. Co-ops are started by people who want to help themselves and by consumers who want to solve their own problems, without looking to others for handouts.

Cooperatives are precisely the kind of nongovernmental institutions that can foster community entrepreneurship, aid in development of our urban and rural areas, and provide self-help solutions to neighborhood problems.

Consumer cooperatives have repeatedly provided nonregulatory, marketplace solutions to consumer issues such as nutrition labeling, unit pricing, and truth in advertising. In addition, the cooperative form of ownership encourages individual savings, requires continuing equity investment by members, and promotes wider involvement in private enterprise by low-, moderate-, and middle-income Americans.

Finally, cooperatives serve as mediating structures that meet human needs at the local level without governmental involvement. Cooperatives that provide health care, child care, and other services will become more important as support for social programs begins to diminish.

To fully appreciate the need for the Co-op Bank, let's look at a sample of the loans this vnique financial institution has made:

First, the West Oak Food Co-op fills the vacuum where an abandoned supermarket left a 3 square mile area without a food store. This co-op, located in a predominantly black, inner-city neighborhood, opened in 1981 with technical assistance and a $270,000 loan from the Co-op Bank, leveraging CETA and UDAG grants provided by the city and State.

Second, the Amherst News Cooperative is a worker-owned weekly news-paper formed by employees laid off from another publication. That co-op received a loan of $40,000 from the Co-op Bank for working capital and equipment purchase.

Third, Co-op Auto in Ann Arbor provided about 200 automobile owners with reliable, reasonably priced auto repairs each week. Membership in this consumer-owned repair shop has grown from 90 to 2,000 in 8 years. Now, thanks to a loan from the Co-op Bank, there is a new, modern facility equipped to serve 300 cars each week. A nice service for those 300 car owners when you consider that half the money spent on auto repairs in the United States is wasted, according to a 1979 study by the Department of Transportation.

Fourth, small businesses in a primarily blue-collar neighborhood in Schenectady, N.Y., depended on the local Grand Union supermarket to attract commercial traffic. When that store closed, local merchants saw their revenues dwindle.

Scores of supermarket chains were approached and invited by the city to open stores. None responded. So the city's neighborhood commercial revitalization program developed plans for the Mont Pleasant Consumers' Cooperative, a new food co-op. The Co-op Bank approved a loan of $216,000 to help Mont Pleasant open in May, and today nearby small businesses are working with the city to make sure that opening is a success. In the words of an official of the Schenectady County Chamber of Commerce, which was active in local fundraising for the co-op, "We are confident that the successful implementation of a food cooperative in the Mont Pleasant area will act as the catalyst for future redevelopment."

Fifth, although the Reston, Va., Children's Center has been operating for 12 years and had an excellent financial track record—it had tripled in size since 1967 and accrued net savings every year since then—it was turned down for a loan by a commercial bank in Virginia. So the Co-op Bank approved a loan of $500,000 for construction of a new facility.

The Co-op Bank is not a Government grant program. The Bank will collect its loans. It will stand on its own feet.

The Co-op Bank is devoted to helping people to help themselves through cooperative effort rather than looking to the Government to solve their problems.

The Co-op Bank is a model program. A small Federal investment is used as seed capital to launch an institution which is already well on its way to becoming a private, self-sufficient, stockholder-owned institution having to succeed or fail without further Federal assistance.

The Co-op Bank is needed more today than when it was chartered in 1978.

I urge you not to terminate the Bank simply as part of the headlong rush to make reductions in the Federal budget. I ask that you, like your predecessors wisely did five decades ago when they created the Farm Credit System, give consumers a chance to help themselves. By encouraging the growth and development of cooperatives, our entire free market economy will be strengthened.

Thank you for this opportunity to testify. The cooperative league is submitting the full text of this message, along with an attachment entitled "Selected Co-op Facts and Figures for 1980," for the record. I will be happy to answer questions at this time.

Ms. FISHER. How many cooperatives or members of your association have received loans from the Co-op Banks?

Mr. KOHL. Member cooperatives—I don't have the list in front of me. I am sort of pulling this out. I can get that information. I would estimate of our membership, probably about 10 or 12 of our members have gotten those, probably.

Ms. FISHER. Do you have any idea what type of activities were covered under these loans?

Mr. KOHL. Most loans I am referring to would be for consumer goods, cooperatives, largely food.

Ms. FISHER. Thank you.

I would appreciate your providing for the record a list of the cooperatives in your association that have received loans from the Bank.

Mr. KOHL. To do that I will look at the list of loans that the Bank publishes and mark which of those are members of the cooperative.

Thank you.

[CLERK'S NOTE.—The information follows. An asterisk indicates that the cooperative is a member of the Cooperative League of the United States.]

STOCKHOLDERS OF THE NATIONAL CONSUMER COOPERATIVE BANK

As of March 25, 1981

The Amherst News Cooperative
25 North Pleasant St.
Amherst, Mass. 010:4

The Arbors Homeowners Association
% R.A. McNeil Corp.
1570 E. 17th St.
Santa Ana, Calif. 92701

Arcata Cooperative
811 I St.
Arcata, Calif. 95521

Arlington Cooperative Organization
2400 Columbia Pike
Arlington, Va. 22204

Asociación de Agricultores en Pequeno
615 West Tefft St.
Nipomo, Calif. 93444

✳ **Associated Co-ops**
4801 Central Ave.
Richmond, Calif. 94804

Benning Heights Cooperative
526 46th Street, SE
DC 20019

Books Unlimited Cooperative
1975 Shattuck Ave.
Berkeley, Calif. 94704

Chatham Park Village Cooperative
737 East 83 St.
Chicago, Ill. 60619

Colonial Cooperative Press
56 Sterling St.
Clinton, Mass. 01510

Community Bakery
736 7th St. NW
DC 20003

Community Food Market
250 West Main St.
Richmond, Va. 23220

Consumer Cooperative of Pittsburgh
5474 Pennsylvania Ave.
Pittsburgh, Pa. 15206

✳ **Consumer Cooperative Association of Eau Claire**
2221 Highland Ave.
Eau Claire, Wis. 54701

Consumers Cooperative of Berkeley
4805 Central Ave. Box 4030
Richmond, Calif. 94804

Co-op Consumer Society, NY
601-619 West Clinton St.
Ithaca, NY 14850

Cooperativa Socios Unidos
2262 Alisal Rd.
Salinas, Calif. 93902

Cooperative Auto
2232 South Industrial Highway
Ann Arbor, Mich. 48104

Cooperativa Campesina Azteca
53 Russell Rd.
Salinas, Calif. 93906

East Hill School Housing Cooperative
205 Dey St.
Ithaca, NY 14850

East Wind Community
PO Box 682
Tecumseh, Mo. 65760

Foothills Craftsmen Cooperative
PO Box 516, Airport Rd.
Stanton, Ky. 40380

49 Symphony Road Cooperative
236 Huntington Ave.
Boston, Mass. 02115

Fresno Family Day Care Center
822 North Van Ness Ave.
Fresno, Calif. 93728

Grand Liberte Cooperative
96 Grand St.
New York, NY 10013

✳ **Greenbelt Co-op**
8406 Greenwood Place
Savage, Md. 20863

Greenbelt Homes
Hamilton Place
Greenbelt, Md. 20770

Group Health Cooperative of Eau Claire
2119 Heights Dr.
Eau Claire, Wis. 54701

✳ **Hyde Park Cooperative Society**
1526 East 55th St.
Chicago, Ill. 60615

Margaret Mead Cooperative House
1002 West Ottawa St.
Lansing, Mich. 48915

The Meat Shop
615 Valley Ave.
Puyallup, Wash. 98371

Merritt Island Cooperative Housing Association
235 North Banana River Dr.
Merritt Island, Fla. 32952

Michigan Federation of Food Cooperatives
209 South 4th Ave., Room 9B
Ann Arbor, Mich. 48104

Mont Pleasant Consumers Co-op
911 Crane St.
Schenectady, NY 12303

Monterey Place Community Cooperative
Monterey Place
South Norwalk, Conn. 06854

Mt. Airy Coop Association
149 East Vernon Rd.
Philadelphia, Pa. 19150

New Haven Food Co-op
320 Whalley Ave.
New Haven, Conn. 06511

Park Shore East Cooperative
360 North Wellington
Chicago, Ill. 60657

Recreational Equipment
18200 Segale Park Dr. "B"
Tukwila, Wash. 98118

Reston Children's Center
12100 Sunset Hills Rd.
Reston, Va. 22090

River City Housing Collective
302 Melrose Ave.
Iowa City, Iowa 52240

Rutland Court Owners
1725 17th St., NW
DC 20009

St. Clair-Macomb Consumers Cooperative
66871 Gratiot Rd.
Richmond, Mich. 48062

The Solar Center
1115 Indiana St.
San Francisco, Calif. 94107

Student's Cooperative Association
1670 Alder St.
Eugene, Ore. 97401

Sunflower Cooperative
2510 Rio Grande
Austin, Texas 78705

300 West 17th Street Housing Development Foundation Corp.
300 West 17th St.
New York, NY 10011

Town Center West Residents Association
1000-1001 6th St., NW
DC 20024

Tucson Cooperative Warehouse
1716 East Factory
Tucson, Ariz. 85719

University Avenue Housing
1414 University Ave.
Berkeley, Calif. 94702

University Students Cooperative Association
2424 Ridge Rd.
Berkeley, Calif. 94709

University West Consumers Cooperative
19 Ashby Street, NW
Atlanta, Ga. 30314

Venice Ocean Park Cooperative Commonwealth
839 Lincoln Blvd.
Venice, Calif. 90291

West Oakland Food Cooperative
Market Stand Grand Ave.
Oakland, Calif.

Westside Housing Cooperative
2319 West McKinley Ave.
Milwaukee, Wis. 53208

✳ **West Campus Neighborhood Co-op (a.k.a. Wheatsville Food Co-op)**
2901 North Lamar
Austin, Texas 78705

Whitehall Educational Cooperative
2500 Nueces St.
Austin, Texas 78705

Yellow Cab Cooperative Association
3455 Ringsby Ct.
Denver, Colo. 80216

RAY M. STROUPE, PRESIDENT, NATIONAL TAX EQUALITY ASSOCIATION

Ms. FISHER. The next witness is Mr. Ray Stroupe.

Mr. STROUPE. Ms. Fisher, I am Ray Stroupe, president of the National Tax Equality Association, and I am accompanied by Christopher Frenze, our director of research.

The National Tax Equality Association appreciates this opportunity to support the administration's proposed termination of funding for the National Consumer Cooperative Bank. The savings of over $200 million in outlays through fiscal year 1982 will facilitate tax relief and reduce unnecessary Government spending and inflationary forces in the economy.

Furthermore, this rescission would lessen subsidies to tax-favored competitors of hard-pressed small taxpaying businesses. We suggest that the distinguished members of this panel mininize NCCB appropriations at every opportunity.

Today there is widespread support for the current effort to trim exorbitant Government spending and unneeded bureaucracy. In this particular instance, the reasons for not only reducing but eliminating a bureaucracy are compelling, especially in light of the fact that many small businesses are in serious trouble.

SMALL BUSINESS FAILURES

Largely as a result of Federal economic policies, many small businesses are failing or on the brink of failure. According to Steven Franklin of the Emory School of Business Administration, between 350,000 and 500,000 new small businesses currently fail each year. Between 50 percent and 60 percent of new small businesses go bankrupt in their first year and 80 percent to 85 percent become involvent within 3 years.

Under these circumstances, the last thing the small businessman needs is more Government-subsidized competition from firms virtually exempt from income taxation. The present situation is especially ironic, since the NCCB is financed, in part, by the tax dollars of taxpaying small enterprises.

The NCCB is a relatively new entity, not as well entrenched as some other elements of Government that have been in existence longer. Nevertheless, it has a potential for disrupting fiscal policy. NCCB operations increase Government spending while eroding the tax base and the amount of Federal tax revenues. If the Bank were to foster a great proliferation of tax-favored cooperatives, fiscal policy could be undermined and achievement of a balanced budget made much more difficult.

Under our individual enterprise system, different types of businesses compete for public patronage. Free, unfettered competition alone insures that market forces maximize economic efficiency and consumer satisfaction.

When the competitive process is distorted by Government privileges or subsidies, capital is diverted from its best use and consumer sovereignty is thwarted. Vigorous unhampered rivalry between business units is beneficial to society and should not be warped by Government bias or intervention.

Unfortunately, Federal policies now contain significant elements of bias that seriously alter economic incentives and deflect market forces. Government granting of credit subsidies through instruments such as the NCCB can be justified only on the assumption that bureaucrats are better allocators of scarce capital resources than private individuals. This assumption is based on the fallacious idea that these officials possess some superior insight not available to those in the private sector who generate capital accumulation.

But we maintain that the concept of public allocation of capital reflects a profound statist bias and that it derogates free choice and independent decisionmaking. There is recent evidence that the majority of American voters reject this concept, which should be anathema in a free society.

TAX-EXEMPT STATUS

Virtual tax exemption granted cooperatives also deviates from the ideal of equal justice under law as well as tax neutrality. NCCB and the cooperatives defend the tax privilege, maintaining that because cooperatives are uniquely nonprofit, they should not be taxed on their income like other business corporations. To the contrary, cooperatives are as much profitmaking as any other type of business.

As the respected economist, R. H. Coase, has pointed out:

> The cost of doing anything consists of the receipts which could have been obtained if that particular course of action had not been taken. This particular concept of costs would seem to be the only one which is of use in the solution of business problems * * *. To cover costs and to maximize profits are essentially two ways of expressing the same phenomenon.

Surely nobody could seriously assert that co-ops do not attempt to cover costs.

Moreover, the belief that the virtual income tax exemption of cooperatives subsidizes inefficiency is recognized even by some cooperative officials. One vice president of a well-known co-op, for example, recently observed that:

> Cooperatives enjoy a tax advantage, but it appears that, in some instances, they have used this advantage to make up for inefficiencies in their operations. In a period of high inflation, that is a luxury we can no longer afford.

NTEA fully agrees with this appraisal, and would add that this is a luxury the U.S. Treasury and taxpayers can no longer afford either.

During congressional debate on the NCCB authorization, proponents stated that NCCB loans would be at market rates comparable to those applied to competing small private businesses. There is little question that a loan secured only by the assets of small corporations would entail an element of risk justifying rates considerably above the prime rate. Nonetheless, the bulk of NCCB loans seem to have been granted at an average of about 15 percent, far below the prime rate for the relevant period.

We believe that the only way the NCCB should be permitted to lend at rates typically applied to fully secured small business loans is to require that NCCB loans be secured by the personal assets of a cooperative's management when necessary. Any other method compounds subsidization and exposes the taxpayers' money to excessive risk.

The NCCB, as I stated earlier, is relatively new. It seems unlikely that any appreciable amount of economic hardship would result if the Bank went out of business. Consequently, we support the enactment of S. 935, which provides for the dissolution of the NCCB. Until such time as that may occur, our association urges that the Congress reduce funding for the Bank in keeping with the administration's proposal.

Thank you.

Senator GARN [presiding]. Thank you very much, Mr. Stroupe.

I apologize for not being here at the start of the hearing this afternoon. When we scheduled these hearings, we had no idea that the conference committee on the supplemental/rescission bill would also be scheduled today. It is necessary to complete action on the bill before Friday at midnight or the Government will totally run out of money. To some, the Government running out of money may not be such a bad idea. However, there are necessary functions of the Government that must continue. So I apologize for not being here, not only to you, but some of the other witnesses. The only reason I am here now is that the House had a series of six votes, which gives me about 45 minutes before I have to be back and defend the Senate's position on the rescissions proposed for fiscal year 1981.

We thank you very much for your testimony.

Mr. STROUPE. Thank you, sir.

SELECTIVE SERVICE SYSTEM

STATEMENT OF DAVID LANDAU, LEGISLATIVE COUNSEL, AMERICAN CIVIL LIBERTIES UNION

STATEMENT SUMMARIZED

Senator GARN. David Landau, legislative counsel, American Civil Liberties Union.

Mr. LANDAU. Mr. Chairman, I have a prepared statement which I would like to briefly summarize for you.

Senator GARN. Thank you.

We will place the entire statement in the record.

Mr. LANDAU. The ACLU appreciates the opportunity to appear on the subject of the Selective Service System, particularly the funding for draft registration.

My message is short, which is we urge the committee to delete that portion of the budget which deals with the active registration system; that is, the approximately $2 per individual required to actually register people. We believe that the system is not necessary in peacetime. We concur with the President's judgment in his stated position which has not changed, to my knowledge, on draft registration and the draft where he said last year that draft registration and the draft destroy the very values our society is committed to defending.

That was in the context of the debate last year, also throughout the campaign. There have been rumors in press reports in the last few days that, in fact, the President will let the authority expire, which I didn't understand, since it is not a question of authority expiring; it is a question of funding, and whether Congress allows the funding to expire on the authority.

We would like to briefly mention one particular aspect of registration that I think is worthy of examining at this time, because it relates to what we would call hidden costs of registration. That deals with enforcement. We all know that the percentage figures for people who have registered for the draft are quite high. It is about 95 percent. That has dropped off to 87 percent during the January registration period.

GOVERNMENT POLICY UNCERTAIN

But if you translate that into actual numbers of people who have not registered, we find that about 500,000 kids have not registered for the draft. That is an enormous concern to us because we frankly don't have any idea what the Federal Government intends to do about that, whether they are going to go out and prosecute these young men or they are going to ask them to register; there still has not been any pronouncement as to the official Government policy from the Department of Justice. We do know, however, through the recent debate on the Defense Department authorization bill that Selective Service would like to go out and set up a computer data matching system with other Government agencies to enforce the law very vigorously.

That, of course, would require many additional attorneys and staff members and many costs which are not reflected in the current budget proposals.

A number of people are, of course, waiting for the Supreme Court to decide on sex discrimination in the draft, but pending the outcome of that case, plans are being made to go forward with the prosecuting and enforcing the law very vigorously.

We think that that kind of massive prosecution of the Nation's youth is really not called for since we continue to believe that mobilization can be met, or emergency requirements can be met, that a system can be established to activate in an emergency which could adequately bring inductees into a wartime draft situation.

Recently, Dr. Rostker testified before this committee that the mobilization requirements had been upgraded so that whereas last year he wrote a report which said he could meet the mobilization requirements without registration, that could no longer happen since they now need their first inductee within 13 days after mobilization. We looked into that, said, "Well, we hadn't heard of any change in the strategy or any casualties rates or anything that the Defense Department does with its computers to figure out what the mobilization requirements are."

We discovered in the statement by the former Acting Assistant Deputy Secretary of Defense for Manpower, Robert Stone, that the reason that they changed their mobilization requirements was not because of any change in the war strategy, but because Selective Service could deliver them sooner. So they say, "If you can give them to us sooner, we will take them." Therefore, that becomes our mobilization requirements. It is not based on any kind of war strategy or comprehensive defense planning.

We feel that is a post hoc rationalization for draft registration, rather than making a determination at the outset what our requirements ought to be.

MOVING TOWARD DRAFT

One final note; that is, that beyond registration, Selective Service in this current budget requirement is asking for money to take several steps that go beyond registration. Last year in the congressional debate we heard it is just registration, it is not the draft. Yet Selective Service is now training over 10,000 local draft board members and Director Rostker came before this committee and said he thinks some funds are necessary, or would be useful, to at least have some preliminary classification now of those with permanent and physical and mental disabilities. In other words, there is a slow progression of moving toward setting up a Selective Service System in a way which would be able to have an active draft very quickly in peacetime. It would be the same system.

It is not just the emergency system in wartime. It could operate in peacetime and would be active in peacetime if you were classifying young men. For those reasons we would ask this committee not to fund those portions of the Selective Service System budget which go for draft registration.

I would be happy to answer any questions.

Senator GARN. On this issue, I agree with your position. I did not vote for the draft registration when it first came before the House and Senate.

On the other hand, I would like to ask you a question that I struggle with all the time in the absence of the draft; that is, the costs associated with the all-volunteer military.

Currently, the major portion of the military budget is directly related to personnel, not to the purchasing of equipment. Thus, the military's budget is a direct result of the military's attempts to attract people and retaining individuals after their first tour of duty.

We are at a great disadvantage with the Soviet Union since we are not able to find out the totals spent for defense. However, even if we knew exactly how much the Soviets were spending, they still would be able to outspend us more than 2 to 1 on R. & D. and procurement of new weapons systems because of the structure of their military system. Although I do not favor registration or the draft at this time, I struggle with the question of the cost of the all-volunteer military as well as the criticisms that the all-volunteer service discriminates against the poor and blacks.

EQUITABLE WAGES FOR MILITARY

Mr. LANDAU. My response to the first part of your question is that the principal architects of the All-Volunteer Force were people like Milton Freedman, who recognized very early that the cost of the All-Volunteer Force may be high in actual dollars in terms of what you pay in salaries because you find you are paying people a fair wage for defending the country, but when you have a draft, it acts as a tax on the Nation's youth, that there are costs, monetary costs involved, by taking people and forcing them to work for the Government without any wages, you are in a sense taxing one segment of society much more than you are taxing the other segments of society. It is not an equal distribution of bearing the costs of national defense.

Here we are asking taxpayers to pay more money, sure, to pay wages of fair salaries for our people in the Armed Forces, but even if we went back to a draft, I cannot see the Congress of the United States somehow slashing the salaries of the enlistees or draftees or even paying different wages.

Senator GARN. You are right. I don't think Congress would slash salaries of the military if we reverted back to a draft military, even though I am concerned that we will not be able to provide enough funds in the military budget for too many more years to maintain the all-volunteer military. However, I hope this will not be the case.

How would you respond to the second objection of the all-volunteer military that it discriminates against minorities and the poor?

Mr. LANDAU. There is no question that there are more minorities in the Armed Forces than ever before. And, perhaps in the Army, upward of 30 percent. It is really a problem of the Army; not of the Air Force, Navy, Marines, where the percentages are in the teens. That gives us some concern. We believe that the draft has the same kind of discrimination.

In the past, they drafted more poor minorities than they drafted rich kids. It is, frankly, almost an insoluble problem with the draft because you always will have some kind of medical exemption, some kind of deferment, whether or not college, but other kinds where people who have money can get lawyers, get doctors, get the letters necessary to get out of the draft. In the compulsory situation we find that far more objectionable. But beyond that, we think that there are resolutions to this problem. We know that when you Started, as the All-Volunteer Force was phased in, the G.I. bill for college benefits was phased out. If you are at the same time, as you well know, we substantially increased beyond anybody's expectations the Federal Government's budget for higher education loans with no strings attached, not any kind of parental income level required. So in the late seventies you had a situation where students are coming out of high school, college bound, there was no incentive for them to go into the Armed Forces. I know in September Senator Simpson will be marking up a new G.I. bill, the House recently brought one to the floor.

I think that will go a long way toward bringing in, attracting college-bound students coming out of high school. Of course, the career problem has—that is a separate issue. But I think we do recognize that there are more poor, more minorities who go into the Armed Forces than ought to be, but I think there are corrective measures that certainly ought to be tried before we talk about going back to the draft.

Senator GARN. Certainly, over the years, the draft became more filled with loopholes and exemptions.

In the early 1950's when I became draft age, there weren't very many choices. The only way I could figure to get out of the draft, was to enlist. I only make that comment from the standpoint that, obviously, the draft did produce a lot of volunteers. There is no doubt about it.

In my case, I preferred to choose where I was going and what type of training I would receive, rather than wait to be drafted.

Again, I appreciate your testimony very much. I hope the all-volunteer military will continue to work and that we don't need a draft. If my own sons choose to go, that is fine. However, I really don't want him to go involuntarily in peacetime. So I hope that the increases in volunteers that we have seen in the last several months is indicative of what will continue to happen in the military.

Thank you very much. The staff has your prepared statement which will, without objection, be inserted in the record at this point.

Mr. LANDAU. Thank you.

[The statement follows:]

DAVID LANDAU, LEGISLATIVE COUNSEL, AMERICAN CIVIL LIBERTIES UNION

The American Civil Liberties Union appreciates the opportunity to present its views on FY 82 funding for the Selective Service System (SSS). We strongly oppose continued funding for draft registration and urge the Subcommittee to delete $ million in the FY 82 SSS appropriations earmarked for registration. Moreover, we urge the Subcommittee to eliminate all funds for SSS programs beyond registration such as training and selection of local draft board members.

The draft and its system have no place in a peacetime democracy. The violations of civil rights and liberties systemic in an active SSS necessitate its confinement to situations where the nation is faced with an imminent threat. Today, when the United States is at peace, the draft and draft registration cannot be justified. As President Reagan has said, draft registration and the draft "destroy the very values our society is committed to defending." In the near future, the federal government will have to confront the first domestic civil liberties crisis precipitated by peacetime draft registration: the investigation and prosecution of over half a million of the nation's youth for failure to register. The issue of enforcement of registration is worthy of further examination because it typifies the repressive nature of the draft.

When we testified before this Committee last year, we predicted, based on past official registration data, that between 5% and 10% of the eligible registrant pool would fail to register. While a 95% rate of registration sounds successful in the abstract, we noted that when the percentage was translated into actual numbers, a compliance problem would be apparent. In testimony before this Committee and other committees of the Congress both last year and this year, SSS has refused to acknowledge this problem. Instead, they have heralded draft registration as a great success even when their own figures reveal a compliance problem. Moreover, SSS explains the significant dropoff in the rate of the current registration (87% compared with 95% from last summer) by stating that the registration rate will increase.

In support of these contentions, SSS cites a recent GAO study of the July registration which concluded that registration is successful. This GAO study, however, is seriously flawed and raises more questions than it answers. First, its methodology was illogical. GAO selected only 406 cards out of 3.6 million at random and then tried to reach the registrants by telephone to verify the information on the card. Only 309 could actually be reached directly, 95% of which had registered accurately. GAO then seemed to assume the accuracy of the nearly 25% of the sample which could not be reached. One could equally draw the opposite conclusion: people who could not be reached provided inaccurate data or had changed address. Further, why use a telephone sample when SSS will use a mailed, written induction order during an actual draft?

Second, even if GAO's methodology was satisfactory, its report figures mean 300,000 persons did not register during the July registration. Extrapolation from a sample of 7,896 other cards revealed that 28,000 "registrants" were not even aware they had registered: 9,500 registrants had "obviously fictitious" or "non-verifiable" names; 55,000 had provided an inaccurate or clearly fictitious address. Finally, GAO did not study whether registrants were maintaining current addresses. Since the Census Bureau estimates that 20% of this age group moves every year, presumably 20% of the pool would have at this point updated their addresses. Selective Service System however has provided data only on address updates during the verification process last fall and has not produced data on continuous address updating. If there is little continuous updating, then the registration data will be of little use.

Rather than probing into the possible reasons for non-compliance and the problems with registration revealed by the loopholes in the GAO study, and the attempting to address them in a manner which is non-confrontational, SSS has proposed a massive computer surveillance system through the use of Social Security and Internal Revenue data. (See Committee on Armed Services, Department of Defense Authorization for Appropriations for FY 82, Senate Report 97-58, May 6, 1981, p.146.) In other words, the enforcement of compulsory registration entails further violation of civil liberties.

Selective Service System could have proposed, for example, a substantial increase in its public informational budget so that it could adequately notify people of their obligations. It has chosen instead to propose a drastic solution involving serious social costs not to mention the millions of dollars which will be required by the Department of Justice to investigate and prosecute 500,000 non-registrants.

In the past the Department of Justice has had to request additional attorneys, support staff and funds for enforcement of the Selective Service Laws. The current budget of SSS therefore does not reflect the true costs of registration. If registration continues, supplemental funds will certainly be necessary later this year. We urge this Committee to evaluate whether the continued growth of SSS and the concomitant high fiscal and social costs contribute significantly to our national defense. A close examination of the facts about the mobilization process reveals that it does not.

Much of the 1980 congressional debate on draft registration focused on the time saved by pre-mobilization registration. A study conducted by SSS Director Bernard Rostker prior to President Carter's decision to renew registration concluded that registration gained only seven days over a post-mobilization system using advanced computer technology. Both the pre- and post-mobilization plans would be able to deliver inductees within the Department of Defense timetable. After President Carter ordered draft registration to begin, Dr. Rostker repudiated his report.

We concede that at least some time is saved by pre-mobilization registration. The question is whether this savings is significant. Based on the Department of Defense's timetable of last year, clearly it is not. Dr. Rostker testified recently that with a fully operational post-mobilization system he might be able to provide the first inductees within the thirty days as required by the DoD. However, this plan is now inadequate because DoD has changed its timetable. It now requires the first inductees within thirteen days and this requirement can only be met with pre-mobilization registration.

We were surprised by the change in DoD's mobilization requirements because, to our knowledge, DoD's war strategy, casualty projections, and manpower needs had not been changed. Former Acting Assistant Secretary of Defense Robert Stone recently provided an explanation in congressional testimony before the House Armed Services Committee: ".... since peacetime registration makes earlier induction possible, we have imposed a more demanding delivery schedule upon the SSS ..."

There has been no change in the war strategy. The change in mobilization requirements is merely a post hoc rationalization for the existence of peacetime registration. Moreover, the schedule is still apparently based on the patently illogical assumption of no volunteers entering the system. (There were 300,000 volunteers in the two months after Pearl Harbor and 20,000 true volunteers each month during the unpopular Vietnam War.) The unjustified change in DoD's mobilization schedule calls into question the need for peacetime registration. When the hidden enforcement costs are added to the equation, we conclude that a post-mobilization registration program could be engineered to provide adequately for the nation's defense. This program would be cheaper and would of course avoid the adverse consequences of an active registration.

The inadequate factual justification of draft registration lends substantial support to our view that registration is the first step in the re-establishment of the peacetime draft. Proponents of registration disagree with this and respond that registration is an issue separate from the draft and will not lead to inductions. Recent actions by SSS indicate otherwise. SSS FY 81 budget included funds for the training and selection of local draft boards. The FY 82 budget contains similar items. Pilot training programs have occurred in Maryland and Kentucky and now the program is nationwide. SSS expects to have about 10,000 Board members recruited this year, although Dr. Rostker has stated SSS is having difficulty recruiting minorities, a mandate of the Military Selective Service Act.

Moreover, Dr. Rostker testified before this Subcommittee that SSS is prepared to and indeed believes it is necessary to classify those persons with permanent mental and physical disabilities. Although this will only affect 2% of the registrant pool, Dr. Rostker believes this will enhance the mobilization process. At the same time SSS is training draft boards and planning limited classifications, it denies that the government has moved beyond registration. All of this has taken place in the face of strong presidential opposition to draft registration and the draft and without any congressional review of the inequitable Military Selective Service Act. In short, SSS appears to be a classic example of a bureaucratic government agency run amok. (It has even moved into new headquarters on the Georgetown waterfront!)

Before SSS moves too far down the road to a peacetime draft, Congress should stop it. If the current policy of the Congress and the Executive is that there should be no peacetime draft, then why classify and why re-establish draft boards? FY 82 funding for these programs should be eliminated.

During the early years of our nation, the great patriot Daniel Webster described the draft as a "fabric of despotism." He said: "[T]he question is nothing less than whether the most essential rights of personal liberty shall be surrendered and despotism embraced in its worst form." His words should be considered when deciding the FY 82 funding of SSS. In particular, the impending prosecution of 500,000 of our citizens for non-registration will mark another chapter in the "despotism" of the draft. This Committee can prevent this by eliminating funds for draft registration and thus ensure that our civil liberties enjoy the maximum protection during peacetime.

Thank you for the opportunity to present our views.

STATEMENT OF JAMES E. BRISTOL, DIRECTOR, ANTI-DRAFT PROGRAM, AMERICAN FRIENDS SERVICE COMMITTEE, AND THE FRIENDS COMMITTEE ON NATIONAL LEGISLATION

OPPOSED TO DRAFT AND WAR PREPARATIONS

Senator GARN. James E. Bristol, director, antidraft program, American Friends Service Committee and the Friends Committee on National Legislation

We are happy to receive your testimony today.

Mr. BRISTOL. Thank you very much, Senator Garn.

I am sure we are appreciative of the opportunity to be here and to testify before you and before the committee.

My name is James Bristol. I appear here today on behalf of the American Friends Service Committee with its National Headquarters in Philadelphia and the Friends Committee on National Legislation based in Washington, D.C., to express our opposition to appropriations for draft registration and other preparations for war. Although Friends are generally opposed to the reinstatement of the draft, neither I, nor the two agencies I represent, purport to speak for all Quakers.

In 1980, the Selective Service System was asked by the administration to register all males of a certain age group. In spite of serious nationwide opposition, Congress voted to give Selective Service funds for that limited purpose. The Nation was assured at that time, by the administration and by Congress, that these funds were appropriated for registration only, not for a reinstatement of the draft.

This year, Selective Service has already reported to you that it has moved far beyond its original mandate. Local draft boards are being established and trained. A centralized computer-run job bank is being devised to handle conscientious objectors. A rudimentary classification procedure is being considered for implementation. Practice call-ups are being staged in order to assure the Department of Defense that inductees can be made available at shocking speed.

The Selective Service System, in consultation with the Office of Management and Budget and the Department of Defense, has taken all these steps without discussion or debate in Congress. These new developments amount to steps in preparation for war and involve policy decisions that should be reserved to Congress. The budget process presents a singular opportunity for Congress to reappropriate the making of these important policy decisions to itself.

The original purpose of draft registration was to send a signal to the Soviets that the United States could mobilize troops rapidly should the need arise. Although we and other draft opponents sharply disagreed with the necessity for this saber rattling, it was repeatedly stressed that draft registration was to be a symbolic gesture only. Now, having seen that initial green light, Selective Service is moving ahead, step by step, toward the actual induction of men into the Armed Forces, an act of mobilization that we were promised would not happen. During all of this, Congress has stated no purpose or focus for such mobilization. Indeed, Congress has been completely left out of the decisionmaking process.

PROTECTION OF OIL AND STRATEGIC MINERALS

What unannounced purposes could there be for a mobilization draft in the near future? Draftees are not needed to defend our shores against foreign aggression. Our borders are not under direct attack, nor in this age of superpowers and superweapons are they likely to be. Nor will draftees be used in the defense of democracy and freedom in other nations. According to the Joint Chiefs of Staff publication, United States Military Posture. our concern about other nations is based on our desire to protect access to certain mineral and oil supplies. In the 1980's, we will probably see ourselves fighting to preserve repressive governments, in order to maintain a stable trade relationship with countries that can supply our needs for oil and strategic minerals.

Draftees could be used to intervene in nations that supply us with oil and important minerals; their role would be to quash liberation movements and to support the government in power, however repressive. Draftees could be used in a confrontation with the Soviet Union, if conventional warfare between superpowers were still possible. However, the idea of raising large armies to fight a limited nuclear war with the Soviets is an irrational concept. President Carter pointed out in his farewell address in January that war with the Soviet Union meant a long afternoon of indescribable horror and destruction that would totally decimate both nations. Such a holocaust would be over long before the first wave of potential inductees could receive their induction notices. The third possibility is that we might use inductees against our own citizens, to quell the domestic turmoil that may indeed result from the Reagan administration's economic program. We submit that all of these purposes argue against moving toward a mobilization draft at this time.

We disagree fundamentally with the idea that military preparedness makes for peace. Because inductees would be used, not to protect the United States, but to intervene in the affairs of other nations, the mobilization of inductees will be seen as a threat to those other nations. Placing our national focus on the development of this threat not only takes our attention away from arriving at peaceful trade arrangements with supplier nations, but also sows suspicion and distrust between ourselves and potentially hostile nations.

The hawks in one nation always strengthen the hawks in the enemy nation. The Russians react to our signals as we react to theirs, and our symbolic gesture becomes an actual instigator of war.

DRAFT THE "ULTIMATE TAX"

Moving toward a mobilization draft is a very serious step. The military draft is the ultimate tax a government can impose on any of its citizens. Moreover, the draft is an uneven and unfair tax, exacted only of the young. The draft interrupts the normal life of the private citizen and deprives him of all his basic liberties. In addition, draftees are required to give of their time and skills to promote a national policy which they may not support. Other Americans, some of whom profit grandly by the trade that is stabilized through intervention politics and by the production of war materials, are asked to forego none of their liberties and are allowed to use their time and skills in private pursuits.

Our organizations ask the members of this committee to consider carefully the purpose of continuing draft registration and other war mobilization activities at this time. Do we know what these inductees would be fighting and dying for? Are there no other avenues to the goals that we would define here with their lives? Is there no other way to apportion this ultimate tax that we are imposing on the young?

The Friends Committee on National Legislation and the American Friends Service Committee ask you to reject all funding for continued draft registration and other steps designed to reactivate the Selective Service System. We ask Congress to engage in a careful study of what constitutes a viable national defense today.

Senator GARN. Thank you, Mr. Bristol. We appreciate your testimony today.

Mr. BRISTOL. Thanks a lot.

STATEMENT OF REVEREND JAMES C. LONGACRE, MENNONITE CENTRAL COMMITTEE

Senator Garn. Next, I would like to invite to the table the Reverend James C. Longacre, Mennonite Central Committee.

Reverend LONGACRE. Mr. Chairman, we really appreciate the opportunity to be able to testify before this subcommittee today. I am James Longacre, moderator of the Franconia Mennonite Conference, conference of 47 churches in eastern Pennsylvania. I am also chairman of the peace section of the Mennonite Central Committee in the United States.

The Mennonite Central Committee is a representative agency of Mennonite Churches and though we can't speak for all individuals within our denoninational groups, the concerns we raise abour conscription reflect a 450-year understanding that our faith requires us to reject war and violence completely.

In the 16th century in Europe, over 2,000 of our forefathers gave their lives as martyrs because they chose to obey God rather than a government which commanded them to take up arms against their fellow human beings. This action was modeled after the witness of the church in the first three centuries after Christ when all Christians believed that participation in the military was contrary to the will of God.

Our conscientious objection to war is an expression of our faith in Jesus Christ. That same faith bears witness to the Biblical teaching that security is in God and not in military might, and the wisdom of Jesus that, "They that take the sword shall perish by the sword."

This teaching becomes more relevant which each new weapon developed and deployed. The consequences of a nuclear outbreak are such that those religious groups who once talked of a just war are now questioning whether any moral sanctification can support war in the nuclear age.

STATEMENT SUMMARIZED

Our testimony has three parts, Mr. Chairman, and I would summarize it as follows: Concern against continuing registration; second, particular concerns about a concept paper that the Selective Service System has developed; then third, a concern that there be opportunity for individuals to identify themselves as conscientious objecters far earlier in the registration process than what is now the case.

Let me continue, then, substantiating these points.

Last year, this committee considered whether to approve registration and a revitalization of the Selective Service System. Registration was approved, but not without serious questions, both within the Senate and by others. President Reagan, as a candidate, said in a letter to Senator Hatfield on May 5, 1980:

> Perhaps the most fundamental objection to draft registration is moral. Only in the most severe national emergency does the Government have a claim to the mandatory service of its young people. In any other time, a draft or draft registration destroys the very values that our society is committed to defending.

We are concerned that allowing the first step toward draft registration to continue will contribute to the illusion being actively promoted by this administration that the answer to our problems in the world is more military might. Less than a year after the Carter administration had contended there was no need for registration, the President in 1980 asked for a resumption of registration. The reason was Afghanistan.

Another signal at the time was the grain embargo. Now the grain embargo has been lifted. Will the registration requirement be lifted also? Or is registration only the foot in the door of the draft?

Registration and the revitalization of Selective Service have been presented as only a contingency plan in case of mobilization. Officials at Selective Service have repeatedly claimed that they are not planning for a peacetime draft.

However, Dr. Rostker, Director of Selective Service, said in reply to a question from Senator Huddleston in connection with hearings by the Senate Appropriations Subcommittee on HUD-Independent Agencies on April 1, 1981:

> The present registration system is designed to interface with any draft system that may be instituted in the future. No modifications would be expected.

What has been happening this past year is that the Government has again begun to intrude into the lives of millions of young men; and Selective Service, without explicit instructions from Congress, has begun to gear up for a draft in some yet to be defined future contingency. We believe there was no justification for registration a year ago—there is none now; and Congress, therefore, should not appropriate money to continue the system.

NEW PLAN FOR ALTERNATIVE SERVICE

As part of the revitalization of Selective Service, an entirely new plan for alternative service for conscientious objectors is being developed. The shape of this plan is contained in the "Alternative Service Concept Paper" published in the Federal Register, January 22, 1981. The program proposed is a highly centralized system of allocating conscientious objectors to areas of national work force need as determined by the Federal Energency Management Agency—FEMA. It envisions establishing a new alternative service bureaucracy with a chain of command from the national headquarters to regional offices to area offices with these alternative service program—ASP—officers having control of the assignment and supervision of conscientious objectors during their alternative service.

This proposed new system seems to us a reversal rather than a progression of the experience of the conscientious objector community. Over 15,000 of our young men were conscripted into alternative service in the draft that operated from 1952 to 1975. Our experience with that service, and the experience of thousands of conscientious objectors during World War II, is the background of our specific concerns about these proposals.

First, Selective Service is planning for a tightly controlled system in order to accommodate a large number of conscientious objectors. We also believe that religious groups should have the possibility of operating their own programs, as in the past, as long as they conform to the statutory requirements for alternative service.

Recognition for church-operated programs will enable those churches who desire to do so to provide closer supervision and pastoral care to their members while they are performing work of national importance.

Second, we believe that many church agencies are engaged in service activities that fall within the legal definition of alternative service. Many of these agencies will be willing to have conscientious objectors assigned to them, but are concerned that their usual personnel requirements not be violated by Selective Service assignment decisions.

Third, appeal procedures for decisions regarding alternative service assignments shovld be provided. As presently proposed, the conscientious objector would be assigned fron a computer job bank. The role of the Federal Emergency Management Agency to allocate jobs according to national emergency needs suggests the possibility that these jobs could be in areas the conscientious objector would consider war related and little different from noncombatant service.

Fourth, we assume that civilian service will be supervised by civilians. This principle appears compromised in the plan to have the 434 area offices headed by military officers and by the role of FEMA, which is subject to oversight by the Secretary of Defense and the National Security Council.

Fifth, the proposed alternative service program does not allow conscientious objectors to serve overseas. We strongly believe that service in relief, disaster aid and reconstruction, and economic development in other parts of the world is in the national interest.

Thousands of conscientious objectors have made significant contributions in projects in developing countries. The Mennonite Central Committee currently has 800 workers in 45 countries and believes such assignments should be allowed, indeed, encouraged.

As part of this statement we include, for the record, a "List of Principles," May 22, 1980, and a copy of a letter sent to Selective Service on March 17, 1981, expressing some of these same concerns. For the convenience of the committee, we also include a copy of the "Alternative Service Concept Paper."

[The information follows:]

ALTERNATIVE SERVICE CONCEPT PAPER

The Alternative Service Concept Paper, published in the Federal Register January 22, 1981, appears to us as a reversal rather than a progression of the experience of the conscientious objector community and the government throughout our history. We appreciate the problems Selective Service might encounter with unprecedented large numbers of conscientious objectors in any future draft. But we also want you to understand the perspective of a community with over 450 years of testimony against war and for service in the name of Christ to all people in need regardless of political or ideological orientation.

1. Our basic reservation about the concept paper is the overall assumption that the management of alternative service is a cog in the massive machinery of government gearing up for war. Conscientous objectors are not simply looking for a way to avoid being part of the military. We refuse to serve in the military because of our understanding of what it means to be a disciple of Jesus and our belief that war is sin, that war is the most destructive and counterproductive means of resolving conflict, and, in the nuclear age, that it is potentially suicidal for the human race.

2. We are also concerned that the proposed alternative service system is an aspect of preparation for war which is part of a strategy for war itself. The recent revisions of nuclear strategy which assume a nuclear war can be "won" would require a massive workforce conscripted for the purpose of relief, medical assistance and rehabilitation for the nation to survive an initial nuclear attack and carry on a conflict. We do not want to be a part of such preparedness.

3. The basis for our conscientious objector beliefs includes a decisive "no" to the use of military force, but equally important includes a positive response to the true needs of the nation which arms can never fulfill. We believe we can contribute to global security through programs of service that contribute to the healing, preservation, and development of the earth on which God has placed us and of all its peoples.

   In that context, the concept paper raises several concerns:

   a. The role of FEMA (Federal Emergency Management Agency) in determining job priorities and workforce allocations seems to leave no room for religious organizations moving in directions that might differ from FEMA's assessment of the immediate national workforce needs. How will the goals and values of service by religious groups be evaluated in that assessment?

   b. The use of conscientious objectors for civil defense or defense preparedness would raise serious questions of cooperation for many conscientious objectors.

   c. The power of Selective Service to transfer conscientious objectors at will appears to be another example of considering the conscientious objector a cog in the very machine the conscientious objector must conscientiously reject.

   d. What types of emergency needs would warrant the transfer of conscientious objectors?

4. From the viewpoint of the individual conscientious objector, there seems to be no opportunity for him to exercise his conscience in any way in the alternative service program. Once the claim for classification is granted, he then appears to be subject to the dictates of the highly centralized, computerized placement process.

5. For both the individual conscientious objector and the employers, there must be due process procedures established to allow for equitable and expeditious settlement of differences, especially in relation to the job assignment process.

6. The prospect of an alternative service system operating under the direction of active reserve or regular military officers housed in military recruiting quarters appears to compromise a longstanding concern of the churches that alternative service be conducted under civilian direction. This concern is increased greatly by the role of FEMA, which is subject to oversight by the Secretary of Defense and the National Security Council.

7. A serious reversal of position from the last draft is that no provision is made for foreign service. Thousands of conscientious objectors served overseas in projects of relief, disaster service, and economic development in ways which made a significant contribution to world peace. We strongly believe such service would be in the national interest.

8. The proposal to pay conscientious objectors with federal funds raises serious questions of possible control which we will want to examine carefully when and if legislation is considered to enact such a proposal.

9. If government subsidy is provided for alternative service workers, provision should also be made to allow groups to refuse that subsidy and financy their own programs with whatever personnel requirements they consider appropriate.

10. In view of our historic objection to conscription of any kind, we question the appropriateness of serving on the advisory panel whose purpose is to advise the government how to administer conscription.

11. We are concerned with the assumption that in the case of conscription, conscientious objectors will be content to allow their deeply held beliefs to be channeled through a bureaucratic placement process into whatever job national emergency priorities determine important. The concept paper might be viewed as a proposal designed to discourage registrants from claiming the conscientious objector position. It will likely encourage noncooperation on the grounds of conscience.

These comments on the concept paper should be seen in the context of our belief that conscription does not serve national needs or contribute to global security, but places the government in the position of violating the rights of citizens. As President Reagan has stated, the ultimate objection to the draft is moral.

We would respectfully remind you of the statement of principles submitted to you June 16, 1980, by the Mennonite Central Committee. A copy is attached, and we believe Nos. 3, 4, and 5 are especially relevant in considering the concept paper. For your information, we also attach a statement from 1951 which indicates that some of the concerns stated above are of longstanding conviction.

We will continue to seek ways to express our Christian discipleship in ways that respond to the needs of all the peoples of our nation and all nations.

LIST OF PRINCIPLES
Adopted by Committee on the Draft
MCC U.S.
May 22, 1980

The Committee on the Draft is a committee of MCC U.S. and U.S. Peace Section with additional members appointed directly by several Mennonite conferences. It is a widely representative group with about 25 members. The following principles were adopted by common consent to guide MCC in making representations to government on draft related matters.

1. CONSCIENTIOUS OBJECTOR RECOGNITION

—that the government should be encouraged to grant conscientious objector recognition to all persons who by reason of sincere conscience oppose participation in military training and war.

2. APPEAL PROCEDURE

—that the right of the registrant to appeal decisions regarding classification should be stated along with provision for an appellant's right to counsel, transcripts of hearings and procedural rights.

3. CIVILIAN SUPERVISION OF ALTERNATIVE SERVICE

—that provision should be made for the alternative service of conscientious objectors to be carried out under civilian supervision.

4. CHURCH-SPONSORED ALTERNATIVE SERVICE

—that service programs of church denominations and agencies should be recognized employment to fulfill the alternative service requirement.

5. PERSONNEL POLICIES OF CHURCH PROGRAM

—that the personnel policies of church-sponsored voluntary service programs should be permitted to function without change where those programs are used to meet alternative service requirements.

6. JUSTICE IN THE OPERATION OF THE DRAFT

—that affirmative action should be taken by the Selective Service System to insure that a disproportionate number of minority and poorly educated youth are not included, and that information on conscientious objection and alternative service provisions should be made available by the Selective Service System to the entire public.

7. NONCOOPERATION

—that persons whose consciences forbid them to register should be dealt with in a manner that is appropriate for individuals of high principle, such as a period of probationary service instead of prison terms.

Reverend LONGACRE. One of our concerns about the present registration system is the assumption that this procedure has nothing to do with classification, enlistment, and service. That would come only at the time of mobilization. This is the justification for not providing a means of indicating conscientious objection in the registration procedure. However, a checkplace is provided for those who want more information about military service. We suggest that a similar checkplace be provided for those who want more information about the other legal option—conscientious objection and alternative service. Selective Service recently sent information about all the options to 22,000 high schools, and we see no reason why a check for such information should not be included on the registration card or made available at the Post Offices at the time of registration. The need for such information becomes apparent when one considers the plan for induction notices in case of mobilization. These will be sent by mailgram and the young registrant will be informed for the first time of his rights of appeal and the possibility for a conscientious objector claim. We believe it would be more equitable to provide that information earlier in the process, ideally at the time of registration.

In conclusion, we urge the committee to scrutinize the plans and regulations being developed by Selective Service for conscientious objectors and not to appropriate further funds for registration and other preparations for conscription now underway.

Senator GARN. The phone call I just received was to inform me that the conference committee will be reconvening shortly. once again, I must apologize for the conflict. If you will excuse me, I will return to the hearings as soon as the conference committee is finished.

I do thank you for coming today.

Reverend LONGACRE. Thank you for the opportunity.

VETERANS ADMINISTRATION

STATEMENT OF JAMES M. PEIRCE, PRESIDENT, NATIONAL FEDERATION OF FEDERAL EMPLOYEES.

Ms. FISHER [presiding]. I would like to welcome Mr. James. M. Peirce, president, National Federation of Federal Employees.

Mr. PEIRCE. Thank you.

Ms. FISHER. The Senator just received a phone call informing him that the conference committee on the supplemental/rescission bill was reconvening. This morning, Senator Garn was at the White House. He returned and attended the hearings for a short time and then he went to the conference committee. It has been quite a hectic day, but he will be coming back to the hearings as soon as the conference committee is finished.

Mr. Peirce, please go ahead with your opening statement.

Mr. PEIRCE. Thank you. I would like to summarize it and assume that the full statement will be entered for the record.

Ms. FISHER. We will include your entire statement in the record at the conclusion of your oral statement.

SUMMARY OF STATEMENT

Mr. PEIRCE. My name is Jim Peirce, president of the National Federation of Federal Employees.

Congress is now considering the administration's plan, including the stringent measures to reduce fiscal year 1982 spending by billions of dollars.

The suggested cuts would adversely affect vital programs in virtually every area of the Federal Government, including those within the VA and millions of citizens who depend upon these programs for necessary assistance.

President Reagan's budget has targeted the VA for nearly $740 million in spending reductions below the figure submitted by President Carter in his January budget. To achieve these savings mandated by President Reagan, the VA would reduce personnel in fiscal year 1982 by more than 5,000 positions from its 1981 operating level and almost 8,000 below the number authorized by Mr. Carter in January. It is important to note that these reductions would follow closely an aggregate loss of 3,000 positions during the past 3 fiscal years, a loss which would have been twice that total if Congress had not restored 4,900 personnel slots in fiscal year 1980 and 1981.

The vast majority of the personnel cuts would come from the Department of Medicine and Surgery. For an analysis of these proposals, we need only to listen to the thousands of members who work for the DMS. For years they have complained of the understaffing at VA medical facilities and the inadequate treatment which results. Congress obviously recognized this because, as noted previously, it restored several thousand positions during the past 2 fiscal years. Moreover, the cut in outpatient visits may actually prove costly in the long run.

The House Veteran Affairs Committee in its report to the House Budget Committee estimated that reduction equated to 10 percent of the outpatient workload within the delivery system by denying outpatient treatment to such large numbers of veterans. We are probably guaranteeing an unnecessary increase in the in-patient load in the years to come. The money we are supposedly saving now will only lead to greater expenses in the future.

In addition to the reduction, the other major personnel cuts would be made within the Department of Veterans Benefits. Specifically, President Reagans' budget calls for the consolidation of the DVB claims processing and loan guaranty functions into centralized operations.

A valuable aspect of the claims processing and loan guarantee function is their accessibility to veterans.

They permit personnel contact between client and counselor, which can be so vital to the well-being of the veteran as well as to the efficiency and effectiveness of the service being provided.

SAN ANTONIO VA OFFICE

The Veterans Administration Office in San Antonio is an example. Its ability to provide essential service to a large veteran population may be reduced by personnel cuts.

San Antonio is one of the three areas in the United States with the largest concentration of seriously disabled veterans. The San Antonio office serves all disabled veterans residing south of the border, east of Corpus Christi, west of Alpine, and north to St. Martin's. Many are old, infirm, illiterate, or unable to understand English.

The personnel service provided by the San Antonio office cannot be duplicated by telephone or written communication. It has been our experience that in order to properly assist these individuals, it takes patience, understanding, and, in many cases, bilingualism.

The phaseout or reduction of the San Antonion Veterans Administration Office would create a wide hole in the safety net.

The Veterans Administration is faced with other significant cuts in addition to those highlighted above, but it should be clear by now that the Reagan budget plan will cause immense problems in the VA, as well as most nondefense agencies.

The reductions are too great to be made without hurting essential programs. If the purpose of the budget cuts were to simply eliminate wasteful, unnecessary activities, the proposed reductions would not be nearly so potentially disruptive.

What is most troubling about this entire issue, however, is that the President's plan is so risky. Hence, there is a good chance that we sacrifice vital services for a program which will, in the end, not achieve its stated goal. The risks are too great and we urge this committee to restore and appropriate funds as reflected in the budget recently passed by Congress.

This action would allow veterans to continue to receive the benefits in medical care which they need and deserve and which this Nation promised to provide. It might also prompt the administration and Congress to temper the economic program with a reasonable level of concern for the millions of citizens who depend on the Federal Government for necessary assistance.

That concludes my statement.

I will be happy to answer any questions.

Ms. FISHER. Thank you very much.

Do you have any additional comments that you might want to add at this point?

Mr. PEIRCE. No; I think the statement pretty much said it. The statement itself not only talks to the Veterans Administration, but many of the other programs as well. We find in our analysis that in the haste to cut the budget by billions of dollars, we think that there hasn't been any real insight into what the impact will be of those cuts. We have cited, not just in the Veterans Administration, but other agencies as well, that we are actually impacted significantly on the American citizen in many areas where aid is in fact needed and necessary and that we are losing sight, I think, or we really haven't keyed in on the problems themselves where we have abuses, where we have a bloated situation; in other words, attack those areas only.

The wholesale approach that has been utilized without really looking behind the scenes to find out what the impact is going to be we just don't think is right and equitable.

PRIORITY PROGRAMS

Ms. FISHER. If you were going to restore funding to the Veterans Administration in fiscal year 1982, what would be the programs which would take priority?

Mr. PEIRCE. I think I would still have to stay both to D.M. & S. and to the veterans benefit side of it. What is provided as far as the veterans benefits is concerned simply cannot be accomplished from the centralized approach. That has been spoken to.

This was proposed some years ago as far as Congress was concerned and it was turned down then on the basis that it did not provide the client association direct to the counselor, and so on. You simply cannot deal with the type people we are dealing with, the veteran, by telephone or by written correspondence, to insure that they do get what they deserve and no more than what they deserve, of course.

As far as the hospitals are concerned, one of the things that we see now in danger are some of our teaching hospitals. For example, the one at Miami, these have been, I think, medical facilities that not only benefit the veteran, but also benefit the medical profession. There has been a lot said toward the ward and the bed occupancy of it, that in large communities where we have a large bed vacancy, that we should think in terms of contracting out is what I would call it, the VA services to public or private institutions.

I think the facts of the thing are that public or private institutions are simply not going to provide the veteran care as we know it today. As a matter of fact, when a veteran reports into one of these facilities, they immediately turn them out, send them to the VA hospitals. Some of the veterans remain there for extensive periods of time. You are not going to find that is going to happen with the private-sector hospital. In addition to that, it would cost more money.

PREPARED STATEMENT

Ms. FISHER. Thank you very much, Mr. Peirce, for your testimony. As I stated at the beginning of your testimony, your prepared statement will be incorporated into the hearing record at this point.

[The statement follows:]

STATEMENT OF JIM PEIRCE, PRESIDENT, NATIONAL FEDERATION OF FEDERAL EMPLOYEES

Mr. Chairman and Subcommittee Members: My name is Jim Peirce and I am president of the National Federation of Federal Employees. NFFE represents nearly 150,000 government workers, ten percent of whom are employed by the Veterans' Administration. It is on their behalf, as well as our Nation's veterans, that I appear here today.

During this period of slow economic growth and high inflation, the current Administration is advocating drastic cuts in the Federal budget, and even larger cuts in Federal income taxes. Both, it is hoped, will lead to a balanced budget by fiscal year 1984. The Administration's theory, as we all know by now, is that the tax cut, together with a balanced budget and fewer government regulations, will spur greater savings, investment, and productivity, and thus greater economic growth and a lower inflation rate.

Congress is now considering the Administration's plan, including the stringent measures to reduce fiscal year 1982 spending by billions of dollars. The suggested cuts would adversely affect vital programs in virtually every area of the Federal Government, including those within the VA, and millions of citizens who depend on these programs for necessary assistance.

It is no surprise that the Administration's budget reductions are presently enjoying widespread support among a majority of the American people and, therefore, many officials on Capitol Hill. Lower Federal spending will make it easier to reduce taxes, the plan's proponents maintain, and both will produce a healthier economy and smaller price rises. Even though some people may have to make sacrifices today, they and everyone else will benefit in the long run. It sounds too good to be true -- and perhaps it is.

Like many other organizations, NFFE seriously questions the impact of the Administration's plan. Its centerpiece, the three-year, 30 percent reduction in personal and business taxes, seems highly inflationary, especially if the tight monetary policy of the Federal Reserve Board continues or the Administration's economic assumptions prove too optimistic. Even likely supporters of the plan question its wisdom. In a recent newsletter the investment house of David L. Babson & Co. remarked, "The economic projections are jerry-built compromises among different schools of thought ... On the tax side, the prospects of the Reagan figures working out are equally poor."

We ourselves do not claim expertise in this area, yet so many professional economists have expressed similar reservations with the Reagan program, that we too must doubt its efficacy.

President Reagan says that rampaging inflation has been caused by excess government spending and crushing Federal deficits. He continually blames the so-called bloated bureaucracy for all the ills of government and the economic woes of our country. It is here that we disagree. First, history reveals that if balanced budgets truly cured inflation, it would not be the problem which it is today. The consumer price index experienced major surges in 1968-69 (4.7 - 6.1 percent), 1973-74 (8.8 - 12.2 percent) and 1978-79 (9.0 - 13.3 percent). These price jumps coincide with the only public-sector surpluses since 1966. The surpluses were in 1969 (9.9 billion), 1973 (7.8 billion), and 1979 (11.9 billion). Federal deficits, however, averaged only 9.8 billion dollars during this period with a Federal surplus occurring in 1969. One can readily see that there is no correlation between Federal (or total government sector) deficits and inflation. The U.S. economy first experienced creeping inflation from 1947 through 1960 during boom years and recessions alike. It should be noted, though, that the Federal government ran substantial surpluses in nine of those 14 years. It was not until the 1970s that we began to experience deficits with some consistency. The main cause of current inflation seems to be a dwindling supply of:

o critical and essential raw materials,
o essential energy materials

Second, we do not see the so-called bloated bureaucracy. Statistics reflected in the special analyses Budget of the United States Government for Fiscal Year 1982 do not substantiate the allegation. Charts (see attached) in special analysis I, Civilian Employment In The Executive Branch, reflect that Federal employment has been relatively stable since 1952 and that Federal employment per 1,000 population has decreased from 16.3 to an estimated 12.6 in 1981. However, the charts do reflect that public sector (state and local governments) employment has increased from 4.1 million to 13.4 million during the same period. We believe that this represents the huge growth in public employment so often blamed on the Federal sector.

We believe it is time the Administration and Congress look at the facts. They should stop using band-aides and attack the root causes of our problems. The Federal employee is not the cause yet has been under attack for too long and made the scapegoat. This cannot continue if we are to maintain the productivity and morale of the Federal employee. Wassily Leontief, 1973 Nobel Prize winner in economics, stated:

> "My feeling is that the American bureaucracy is a very good bureaucracy, very skilled, very dedicated.
>
> They really can solve problems. They have all the skills and moral qualities. If we have a terrific amount of graft, it was not among our bureaucrats. It was among the politicians. As a matter of fact, let me add that there is at least as much graft in private business as in politics. Private business is the main source of political graft, as we learn now. The most incorruptible part of our society, I would say are our bureaucrats.

Isn't it time to get off the Federal employees back and start applauding them for the job being performed under the most trying circumstances?

Despite the many knowledgeable critics, Congress is nevertheless pushing ahead with the White House plan. Congress, however, is far more concerned with the tax cut, and its potential for setting record-high deficits than the Administration. Indeed, it is my understanding that the Senate Budget Committee at least initially rejected the First Budget Resolution because the spending cuts, already severe, were still not large enough to offset the projected revenue loss from the President's tax proposal.

So it is clear that the major thrust for the spending reductions is not to eliminate wasteful or unnecessary Government programs. Their purpose, rather, is to help implement a politically attractive, but extremely risky economic plan. And to achieve this aim the spending reductions must go far beyond simple prudence to the very heart of programs that were once considered essential to the overall well-being of our country and its citizens.

A case in point is the Veterans' Administration. The Reagan budget has targeted the VA for nearly $740 million in spending reductions below the figure submitted by President Carter in his January budget. It is NFFE's view that the cuts would seriously hinder the VA's ability to serve our nearly 30 million veterans and their families.

To achieve the savings mandated by President Reagan the VA would reduce personnel in fiscal year 1982 by more than 5,000 positions from its 1981 operating level and almost 8,000 below the number authorized by Mr. Carter in January. It is important to note that these reductions would follow closely an aggregate loss of 3,000 positions during the past three fiscal years; a loss which would have been twice that total if Congress had not restored 4,900 personnel slots in fiscal years 1980 and 1981.

The vast majority of the personnel cuts would come from the Department of Medicine and Surgery. Approximately 2,200 would result from a reduction in outpatient, non-service-connected medical visits and the discontinuance of the Readjustment Counseling program. An additional 2,200 positions would be lost by combining hospital wards with low census and occupancy rates and through a general increase in medical employee "productivity."

For an analysis of these proposals we need only listen to the thousands of NFFE members who work for the DM&S. For years they have complained of the understaffing at VA medical facilities and the inadequate treatment of veterans which results. Certainly, the conditions within these facilities should be known best by the very employees who man them. Congress obviously recognized this because, as noted previously, it restored several thousand positions during the past two fiscal years. Yet, as part of the Administration's economic plan, we are again forced to consider reductions in medical staff.

Moreover, the cut in outpatient visits may actually prove costly in the long run. The House Veterans Affairs Committee, in its report to the House Budget Committee (Committee Print No. 20), estimated that the reduction equated to 10 percent of the outpatient workload within the VA health care delivery system. By denying outpatient treatment to such large numbers of veterans we are probably guaranteeing an unnecessary increase in the inpatient load in years to come. This applies also to the elimination of the Readjustment Counseling program. The money we are supposedly saving now may only lead to much greater expenses in the future.

In addition to the reductions in DM&S, the other major personnel cuts would be made within the Department of Veterans Benefits. Specifically, the Reagan budget calls for the consolidation of the DVB claims processing and loan guarantee functions into centralized operations. The reorganization would eliminate 1,673 positions from the VA payroll.

A valuable aspect of the claims processing and loan guarantee function is their accessability to veterans. Unlike other functions of the Federal government, which are often centralized in a minimum number of locations and therefore inaccessable to most users, these facilities are located throughout the country and are readily available to veterans. They permit personal contact between client and counselor, which can be so vital to the well-being of the veteran as well as to the efficiency and effectiveness of the service being provided.

The Veterans' Administration Office in San Antonio is an example. Its ability to provide essential service to a large veteran population may be reduced by personnel cuts.

San Antonio is one of the three areas in the United States with the largest concentration of seriously disabled veterans. This is mostly due to the availability of medical treatment at Wilford Hall Air Force Hospital, Brooke Army Medical Center and Audie Murphy Veteran Hospital. Bexar County has a total veteran population of approximately 123,730.

The San Antonio office serves all disabled veterans residing south to the border, east to Corpus Christi, west to Alpine and north to San Marcos. Many of these veterans are old, infirm, illiterate or unable to understand English. The population of Bexar County is 46.6% Mexican-American.

The personal service provided by the San Antonio office cannot be duplicated by telephone or written communication. It has been our experience that in order to properly assist these individuals, it takes patience, understanding and, in many cases, bilingualism.

The Veterans' Administration has spent a considerable amount of money to provide the San Antonio office with access to its sophisticated, nationwide computer system. This system has greatly enhanced the office ability to efficiently and effectively resolve many benefits problems, as well as to provide accurate information to our clients.

The Vocational and Rehabilitation and Counseling Division in San Antonio plays a vital role in assisting the seriously disabled veterans, many of whom are paraplegics and amputees. Last year alone they serviced 13,000 veterans. The Vocational Rehabilitation Specialists assigned to the local Veterans' Administration Office supervise the programs and training of disabled veterans in institutions of higher learning, vocational schools, in the home, as well as on the job.

The Loan and Guarantee Division is also part of the San Antonio office. The office now services 60 counties. The home insuring operation is the most active in the state with better than fourteen thousand appraisals in the last 12 months.

The phase-out or reduction of the San Antonio Veterans' Administration Office would create a wide hole in the safety net of services that President Reagan has insisted will be provided by a grateful government to its truly needy.

The Administration, however, has ignored this. In the rush to save money. The facilities would be consolidated into just three units, thereby denying personal access to them to all but the few veterans who would live nearby.

Aside from the programmatic flaws, it's also highly unlikely that the consolidation would save the $46 million projected by the Administration for the upcoming fiscal year. We refer again to the report of the House Veterans' Affairs Committee to the House Budget Committee:

> "The VA anticipates a low percentage of trained personnel would relocate when the consolidation takes place. With the proposed initial staff reduction of 1,673, together with several thousand new and untrained employees to replace those who would not move to another part of the country, only the most naive would project savings of any kind. The Committee does not accept the anticipated savings in fiscal year 1982. Aside from the impracticality of assuming that the logistics could be worked out in such a short time span, the extent of staff relocation would offset to a significant degree any planned overall reduction in fiscal year 1982. The committee also takes note that any move involving so many employees with relocation

> of offices and equipment within the next 18 months would in all likelihood result in utter chaos for disabled veterans and their survivors at a time when they need prompt and efficient service.
>
> Reduced services to disabled veterans would not be the only result. Delays in servicing loan applications and a reduction in the total number of loans processed would be inevitable. Substantial and expensive increases in the number of loan defaults going to foreclosure and a substantial reduction in the number of acquired properties being disposed of would result from such a move. Additional monies would be needed for overtime and employees might find themselves overworked and ultimately less effective. These eventualities are potentially very expensive to the Nation - far more expensive than the projected savings."

As you can see, from both a progammatic and budgetary standpoint, the proposed consolidation is a poorly conceived idea.

Another major reduction is a proposal to cap special pay for VA dentists and physicians at 12 percent of the total funding appropriated for this purpose. The special pay provision (Public Law 96-330) was passed only last year after a convincing case was presented to Congress of its need to attract and retain qualified medical personnel. After President Carter vetoed the bill, in fact, Congress overrode the veto by votes of 401 to 5 in the House and 85 to 0 in the Senate, the largest margin in United States history. Yet Congress may now have to weaken the very policy which it approved just months ago with this record-setting vote.

The Veterans' Administration is faced with other significant cuts in addition to those highlighted above. But it should be clear by now that the Reagan budget plan will cause immense problems in the VA, as well as in most nondefense agencies. The spending reductions are just too great to be made without hurting essential programs. If the purpose of the budget cuts were to simply eliminate wasteful and unnecessary activities, the proposed reductions would not be nearly so potentially disruptive. But the Administration's economic program is forcing the cuts deep into vital areas and will hinder the VA's ability to carry out its traditional responsibilities.

It is ironic, too, that the White House is proposing huge cut backs in VA operations at the very moment it is mounting an unprecedented buildup of our defense forces. Surely, the promises we gave to the men and women who served in the military should be given priority in any policy to strengthen national defense. As it is now, they are in conflict.

What is most troubling about this entire issue, however, is that the President's plan is so risky. Hence, there is a good chance that we may sacrifice vital services for a program which, in the end, will not achieve its stated goal. For NFFE, the risks are too great and we urge this Committee to restore, as closely as possible, the level of funding for the Veterans' Administration that was originally recommended by Mr. Carter last January. This action would allow veterans to continue to receive the benefits and medical care which they need and deserve, and which this Nation promised to provide. It might also prod the Administration and Congress to temper the economic program with a reasonable level of concern for the millions of citizens who depend on the Federal Government for necessary assistance.

That concludes my statement. I will be happy to answer any questions.

GOVERNMENT EMPLOYMENT AND LABOR FORCE COMPARISONS

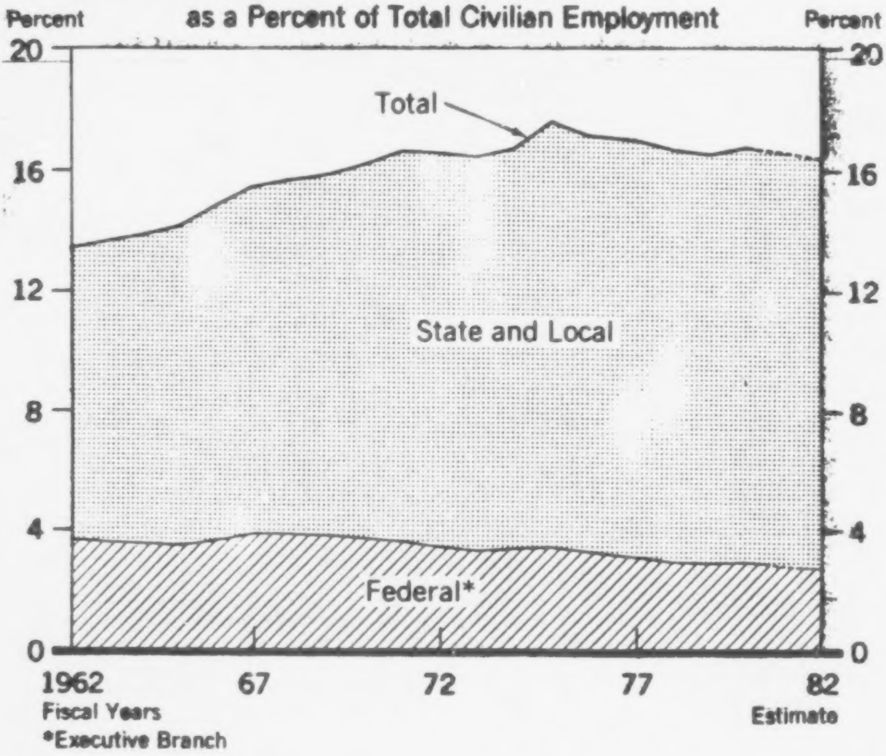
As shown on the following chart, Government employment—Federal, State, and local—will comprise about 16.4% of the total employed civilian labor force in 1982.

Within this segment, Federal civilian employment in the executive branch accounts for 2.8% of the total employed civilian labor force in 1982, down from a high of 3.8% in 1968.

The percentage of the total employed civilian labor force attributable to State and local government has grown from 9.6% in 1962 to 13.6% in 1982.

Government Civilian Employment

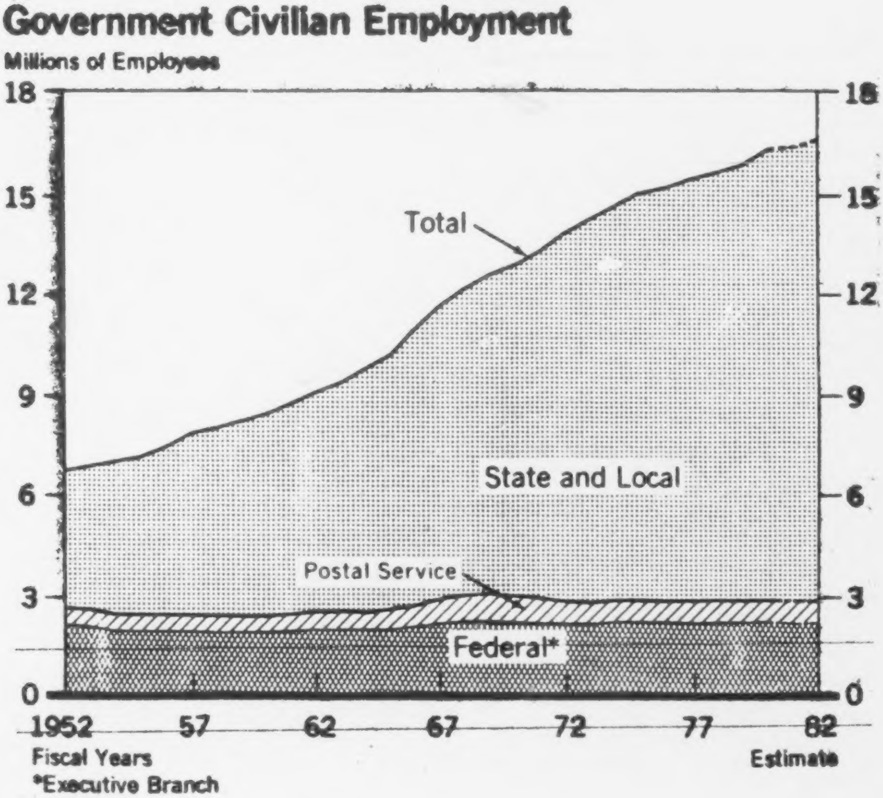
as a Percent of Total Civilian Employment



GOVERNMENT EMPLOYMENT AND POPULATION COMPARISONS

As illustrated in the following chart and in table I-5, the Federal share of total governmental employment has declined significantly over the last three decades, from 38.4% in 1952 to an estimated 17.0% in 1982. Employment for all government has been rising steadily due to increases in State and local government employment.

The ratio of Federal civilian employment to the total U.S. population is expected to be 12.4 per thousand in 1982.



THE BUDGET FOR FISCAL YEAR 1982

Table I-5. GOVERNMENT EMPLOYMENT AND POPULATION, 1952–82

Fiscal year	Government employment				Population	
	Federal executive branch [1] (thousands)	State and local governments (thousands)	All governmental units (thousands)	Federal as percent of all governmental units	Total United States (thousands)	Federal employment per 1,000 population
1952	2,574	4,134	6,708	38.4	157,553	16.3
1953	2,532	4,282	6,814	37.2	160,184	15.8
1954	2,382	4,552	6,934	34.4	163,026	14.6
1955	2,371	4,728	7,099	33.4	165,931	14.3
1956	2,372	5,064	7,436	31.9	168,903	14.0
1957	2,391	5,380	7,771	30.8	171,984	13.9
1958	2,355	5,630	7,985	29.5	174,882	13.5
1959	2,355	5,806	8,161	28.8	177,830	13.2
1960 [2]	2,371	6,073	8,444	28.1	180,671	13.1
1961 [2]	2,407	6,295	8,702	27.7	183,691	13.1
1962	2,485	6,533	9,018	27.6	186,538	13.3
1963 [3]	2,490	6,834	9,324	26.7	189,242	13.2
1964 [3]	2,469	7,236	9,705	25.4	191,889	12.9
1965	2,496	7,683	10,179	24.5	194,303	12.8
1966	2,664	8,259	10,923	24.4	196,560	13.6
1967	2,877	8,730	11,607	24.8	198,712	14.5
1968	2,951	9,141	12,092	24.4	200,706	14.7
1969 [4]	2,980	9,496	12,476	23.9	202,677	14.7
1970 [2]	2,944	9,869	12,813	23.0	204,878	14.4
1971 [2]	2,883	10,372	13,255	21.8	207,053	13.9
1972	2,823	10,896	13,719	20.6	208,846	13.5
1973	2,775	11,286	14,061	19.7	210,410	13.2
1974	2,847	11,713	14,560	19.6	211,901	13.4
1975	2,848	12,114	14,962	19.0	213,559	13.3
1976	2,832	12,282	15,114	18.7	215,152	13.2
1977 [5]	2,789	12,704	15,493	18.0	217,422	12.8
1978	2,820	13,050	15,870	17.8	219,247	12.9
1979	2,823	13,308	16,131	17.5	221,180	12.8
1980 [2]	2,821	13,445	16,266	17.3	[8] 222,672	12.7
1981 (est.) [2]	[7] 2,800			[6] 17.1	[8] 224,744	12.6
1982 (est.)	[7] 2,811			[6] 17.0	[8] 226,883	12.4

[1] Covers total end-of-year employment of full-time permanent, temporary, part-time, and intermittent employees in the executive branch, including the Postal Service, and, beginning in 1970, includes various disadvantaged youth and worker-trainee programs.

[2] Includes temporary employees for the decennial census.

[3] Excludes 7,411 project employees in 1963 and 406 project employees in 1964 for the public works acceleration program.

[4] On Jan. 1, 1969, 42,000 civilian technicians of the Army and Air Force National Guard converted by law from State to Federal employment status. They are included in the Federal employment figures in this table starting with 1969.

[5] Data for 1952 through 1976 are as of June 30; for 1977 through 1981, as of Sept. 30.

[6] The percentages shown for these years are consistent with reasonable estimates based on recent trends in State and local government.

[7] Reflects fractional counting of part-time permanent positions, pursuant to the provisions of Public Law 95–437.

[8] U.S. population data for 1980–1982 are the latest available from the Census Bureau. Revised estimates, based on the 1980 Census, were not available in time for publication in this analysis.

STATEMENT OF E. PHILIP RIGGIN, DEPUTY DIRECTOR, NATIONAL LEGISLATIVE COMMISSION,

ACCOMPANIED BY ROBERT E. LYNGH, DIRECTOR, NATIONAL VETERANS AFFAIRS AND REHABILITATION COMMISSION

Ms. FISHER. The next witness is Mr. Philip Riggin, deputy director, National Legislative Commission, and Robert E. Lyngh, director, National Veterans' Affairs Rehabilitation Commission.

Mr. LYNGH. Mr. Chairman and members of the subcommittee, the American Legion is pleased to have the opportunity to present its views to the subcommittee on the matter of appropriations for the Veterans Administration for fiscal year 1982.

May we say at the outset we are aware the present administration was elected to office on a campaign pledge to balance the Federal budget. Most Americans are agreed that Federal spending has gotten badly out of control. Veterans and members of the American Legion are taxpayers and have as much interest in the fiscal health of the Federal Government as do all other citizens.

A thorough overhaul of the entire Federal budget must include an examination of veterans assistance programs along with all other Federal programs, and the Legion will be supportive of such examination. We expect a thorough and objective review by the appropriate committees of the Congress, and we are giving serious study to the proposals of the administration.

We believe a thorough review will establish the fact that all veterans assistance programs are viable and that they are accomplishing the purpose for which they were intended. Where improvements in organization and management can be identified, the Legion will support them, in the interest of good government. If personnel savings can be accomplished without resulting delay of delivery of benefits to entitled beneficiaries, we will support those.

FULL FUNDING FOR VETERANS URGED

Within the framework of the above statements, the American Legion stands for full funding for veterans programs; by which we mean there should be provision of such funds as are necessary to effectively carry out the programs that have been legislatively established. We support all those programs. Each of them had a purpose when enacted, and each was adequately justified as meeting a legitimate need of the veteran population.

We are not aware of any programs at present that do not have population. We are not aware of any programs at present that do not have a sunset provision, that are superfluous or redundant; and, therefore, we support all veterans assistance programs that are now functioning.

To balance the Federal budget, the Government must set the national priorities. The American Legion believes that when these priorities are set, veterans assistance programs should rank second only to national defense. That statement is made with full knowledge of the many special interest groups that will present their petitions to Congress. However, when speaking of Veterans we are referring to the men and women who have answered the call of the elected government and have served in the uniformed services to support and defend the national interest.

DEBT OWED VETERANS

Millions of them have served in wartime and have engaged in conflict with enemies designated by the Government. These men and women most certainly have first call on the attention and the resources of that same Government and on its obligation to respond to their legitimate needs when their service has been completed; as do the survivors of those who have died. We submit that no other interest group can make a claim of equal weight.

The time may come again when the Government will turn to the people with a requirement of national service. How the Government treats today's veterans will affect the response to tomorrow's soldiers. We believe the Congress, as well as the administration, should keep that in mind.

At the conclusion of the Vietnam war, the Veterans Administration budget comprised 5 percent of the total Federal budget. That same VA budget for fiscal year 1981 comprised no more than 3.5 percent of the total Federal budget. The VA budget for fiscal year 1982 will not exceed that 3.5 percent level. On that basis, no one can say that the appropriations of funds for veterans assistance programs are continuing to expand, or that they are consuming an exorbitant amount of Federal funds. The American Legion says: Let the social action programs look to their parameters, and try to constrict themselves as well as is being done for veterans programs before any complaints are raised about funds set aside to meet the needs of the Nation's defenders.

Veterans Administration appropriations for fiscal year 1980 came to $20.5 billion. Initial appropriations for fiscal year 1981 were $22.4 billion, subject to supplementals. The Reagan bipartisan budget, which the American Legion supports, provides $24.8 billion in budget authority for VA. We submit that, in light of the double digit inflation that has prevailed for the past several years, that is not an excessive amount. Our analysis indicates it will be barely sufficient to maintain programs at existing levels, and will still require adjustments and modifications the American Legion does not approve.

OUTLAYS

In outlays, the VA spent $21.1 billion in fiscal year 1980, and $22.5 billion in fiscal year 1981, subject to supplementals. The initial Carter administration proposals called for outlays of $24.4 billion in fiscal year 1982. The Reagan bipartisan budget calls for outlays of $24.05 billion, somewhat less than the initial Carter proposals. Let it not be said that veterans assistance programs are not participating in the movement toward fiscal austerity in government.

As the Appropriations Committee moves toward development of legislation for fiscal year 1982, there are certain points regarding veterans assistance programs the American Legion would like, respectfully, to bring to the committee's attention.

MEDICAL CARE PROGRAM CRITICAL

In the first place, 64 percent of the VA budget comprises benefit programs, leaving only 36 percent of the budget in which adjustments can be made. Although all veterans programs are important, the medical care program is critical, because of its very nature, and because the cost factors for medical care are more sensitive than are all others to inflationary pressure.

We cannot list here all of our concerns, especially in the medical care area—there are too many of them in that highly technical and complex program. The ones we mention are of particular concern to us at this time, because underfunding would have the most serious impact on the viability of the program.

In medical care, personnel is always the most crucial factor. Medical care is labor-intensive, a statement that is a truism in the field of medical care. It is true in all sectors of the practice of medicine, and it is certainly true in the medical care program operated by VA. Ninety-three percent of all employees of the Veterans Administration are assigned to the Department of Medicine and Surgery. And yet, the core staffing ratios in VA medical centers, systemwide, are consistently lower than those in the private sector, and significantly lower than those in university hospitals. We are here today to tell this subcommittee, based on our experience, working as volunteers in all of the 172 VA medical centers, that the staffing ratio in many of them is so critical that patient care is definitely being affected.

We refer particularly to professional, paraprofessional, and nonprofessional direct care personnel. And the accuracy of our observations is attested to by the directors, chiefs of staff, head nurses, and other responsible officers in the medical centers who have to struggle daily to maintain the quality of patient care in the face of personnel shortages. These marginal staffing levels are further affected by fatigue and morale factors that always arise with personnel shortages in high pressure occupations.

ACUTE PERSONNEL SHORTAGE

What we are trying to say here is that there is absolutely no room for any personnel reductions in the VA Department of Medicine and Surgery. We fought this battle for 4 years with the Carter administration, and we repeatedly pleaded with Congress to provide funds for more medical personnel.

Even with a positive response from Congress, which we frequently received, and even when the Office of Management and Budget would allow VA to use funds appropriated for medical personnel, the levels of personnel in the hospitals was still marginal at best, and we of the Legion could see its effect on the ability of personnel on duty to care for patients. Believe me when I say that we could give instances of beds closed in intensive care units, minimal care delivered in extended care wards, personal hygiene of patients neglected, a myriad of things that happen on a daily basis in this vast system. Members of Congress would be ashamed if they had to see them personally.

On that basis, we plead with the committee at this time not to mandate any cuts in personnel in the VA Department of Medicine and

Surgery. One thing we are sure the members will agree on, if the Federal Government intends to maintain this system for sick and disabled veterans, then it must be maintained at a level of quality of care delivered that the American people will not be ashamed of, and so that there will not be scandals due to lack of care delivered.

We are sure this Congress does not want the VA to revert to the bad old days before World War II when it maintained a human warehouse system for indigent and aging veterans.

PROFESSIONAL COMPENSATION LEVELS

Along these same lines there is the matter of professional compensation levels. Members, of course, are aware of of the congressional action of last year in enacting Public Law 96–330, the physicians pay bill, over Presidential veto. The new administration proposed a cap on the professional levels included in Public Law 96–330, so that special and incentive pay would not exeed 12 percent of total appropriations to compensate those professionals. Such an action would, of course, defeat the intent of Public Law 96–330. The seriousness Congress attached to the need for this legislation is certainly evident in the enactment by override.

For the new Congress now to negate the action of last year would not make any sense. The alternative to the special and incentive pay levels provided by Public Law 96–330 is a wholesale departure of top quality physicians from VA service, increasing inability of VA to recruit top quality professionals, and a consequent decline in quality of care for sick and disabled veterans. We urge the subcommittee to include funds for the full implementation of Public Law 96–330 in the appropriations measure.

Next to the maintenance of personnel levels in the Department of Medicine and Surgery is the provision of necessary equipment and supplies. Medical technology is probably the fastest changing branch of science.

Improvements in treatment modalities follow upon development of new techniques with more and more modern equipment and devices. The results, of course, are lives saved, pain alleviated, suffering allayed, and such cost-effective benefits as length of stays decreased. To accomplish all this there has to be sufficient funding for equipment and supplies geared to the state of the art modern medicine.

Then there is the matter of medical and prosthetic research. This program, through the years, has been a jewel in the crown of the VA medical care program. Both pure research and applied research conducted within the VA system has helped not only veterans, but all Americans, and indeed all mankind. The achievements of VA medical research are something the entire Nation can be proud of. And another point in discussing this subject is the fact that if there is any agency that should take the lead in medical and prosthetic research it is the VA, considering the character of its clientele.

The nature and location of the wars in which the Nation has engaged has led to a variety of disease and disability that has challenged medical science. It is only appropriate that VA, through its research program, should take the lead in addressing these problems. Yet, each year there is a constant struggle to secure adequate funding for this program. The need and justification for these funds is self-evident, and we of the Legion do not understand why there has to be a repeated justification presented. The Carter budget provided $155.4 million for medical and prosthetic research; the Reagan budget adjusted that figure to $145.7 million. Certainly, there should be no less than the initial Carter proposal.

BENEFICIARY TRAVEL

There will be a legislative proposal to place a $5 deductible on beneficiary travel for a $35 million saving. The American Legion has to be in opposition to this proposal because the veterans affected by it will be the oldest and the poorest.

When one is aged and surviving on minimal social security benefits and little else, a $5 transportation cost becomes a major item to monthly survival. A recent survey indicated 36 percent of the VA inpatient population have annual incomes of less than $2,000. To impose a $5 deductible on the travel of this class of beneficiary will result in their seeking less care, leading to more acute episodes, and a greater need for hospitalization at ultimate greater cost to the Government. We do not believe the Government can actually save $35 million with this idea.

The renovation and replacement program for the VA medical care system has fallen substantially behind schedule due to underfunding in prior years.

Within the last year or two, the Carter administration undertook an increase in the program in an apparent effort to bring it up to schedule. The American Legion applauded that effort. Now, however, the new administration wants to revert to the earlier policy of delay that will cause the program to again fall further behind. That is not a good idea. We will not discuss here the cancellation of the Baltimore and Camden construction projects since they have been dealt with in another measure, although the American Legion feels quite strongly about the need for those hospitals.

We are equally concerned about the delay requested by the administration in nine major construction projects for fiscal year 1982, projected to cost $65.6 million, and the deferrals in minor construction amountinq to $32 million in budget authority and $8 million in outlays, also for fiscal year 1982.

The nine major projects include Brooklyn, laundry; Chillicothe, modernization; Denver, clinical addition; East Orange, building environment deficiencies; Gainesville, clinical improvements; Long Beach, research building; New Orleans, clinical addition; Palo Alto, surgical addition; and Washington, D. C., nursing home care unit and parking lot.

We have listed these projects in our statement because they are representative of what is needed within the VA system. The VA system operated by the Department of Medicine and Surgery represents a multibillion dollar capital investment by the Government in the finest single health care system in the world. Yet there are still hospitals in the system built before World War II. Others built immediately following World War II have deteriorated and have become outdated by modern medical technology.

THREAT OF CANCELLATIONS

National commitment to the veterans medical care program and protection of the Government's investment dictate that the renovation and replacement program shall proceed on schedule. We have been frankly told by officials at OMB that some of the deferrals may be transferred to cancellations in future budget messages. That would be a tragedy, both for veterans medical care and for the future of American medicine.

Which comment presents the appropriate moment to recognize the emerging role of VA as the major national security resource in medical care for the defense establishment. There is legislation pending in this Congress that will authorize VA to immediately receive and treat military casualties in case of the outbreak of hostilities overseas involving U.S. Armed Forces.

The fact of the matter is, this is not just a good idea; it is essential to the ability of the military establishment to meet the Nation's global commitments. Military medical facilities are not presently able to meet the needs of the first day's hostilities that, in modern warfare, would result in major casualties, most of whom would be immediately returned to the United States for treatment. This fact makes the VA system absolutely essential to national defense in today's dangerous world. That being so, it behooves the Government to look carefully to the state of readiness of that system, not only to care for veterans which is its primary responsibility, but to care for the casualties that will follow immediately upon the outbreak of war.

So we repeat that the system is deteriorating, and will continue to do so unless the program of renovation and replacement is kept on schedule. We ask the subcommittee to keep in mind, in the context of these remarks, that there is no plan to increase the size of the system. The only new hospital that has been planned is that at Camden, and the need for that new facility was thoroughly documented before it was placed on the books. The complete system would be a 173-hospital system, which makes it all the more important for those 173 hospitals to be kept in condition to fulfill their mission.

VIETNAM VETERANS OUTREACH AND COUNSELING PROGRAM

The administration has also recommended to the Congress the termination of the Vietnam veterans outreach and counseling program mandated by Public Law 96–22, and for which authorization expires with fiscal year 1981.

The commitees of both Houses that have considered this administration request appear in general agreement that the program should be extended for an additional period, in order to effectively carry out its mission—the provision of direct assistance to that large number of mostly combat veterans of the Vietnam war, who have not successfully completed their readjustment.

The American Legion agrees with this assessment, and recommends strongly that funds be provided in the appropriation measure for this purpose.

The administration proposes to save $104 million by reducing the number of outpatient visits, along with the above-mentioned termination of the outreach and counseling program. With reference to this cutback, the House Committee on Veterans Affairs, in its report to the Budget Committee, said:

> The impact of the cutback in outpatient visits could, in effect, end many of the outpatient services now available to the poor non-service-connected veteran.
>
> The committee has already established that current available resources for outpatient services are not sufficient to take care of all eligible veterans who are in need of these services. The proposed further reduction would have a major adverse impact on both quality and quantity of care for non-service-connected veterans seeking outpatient treatment.

Outpatient treatment rendered in this program is demonstrably cost-effective in that it obviates the need for hospitalization in most, if not all, instances. Needless to say, the American Legion opposes this cutback.

There are still other elements of medical care funding about which the Legion is concerned. We have only highlighted here those that will have the most visible impact, to the detriment of the programs for veterans that have been legislated by the Congress, in its concern for the Nation's defenders.

May we conclude this part of our statement by saying the rationale presented here expresses the Legion's deep concern for the veterans medical care program and sets forth the principal reasons why we believe Congress should provide full funding for this veterans program.

NON-SERVICE-CONNECTED BURIAL BENEFITS

In another area of veterans benefits, we wish to direct the subcommittee's attention to a proposal to limit non-service-connected burial benefits to those veterans with adjusted incomes of $20,000 or less, at a projected savings of $80 million in fiscal year 1982.

The reason the American Legion is opposed to this proposal is that this organization has always supported the concept of equal benefits for equal service. By which we mean that a statutory benefit such as the burial benefit has historically been bestowed on the survivors of the veteran in recognition of honorable service rendered to the country.

The value of service rendered is not predicated on the socioeconomic status of the service member, and the benefit granted should not be either. The benefit should continue to be available to all those who have honorably served the Nation, and not just those who have the misfortune to die poor.

In the category of new legislation that has been proposed in the field of veterans benefits is a comprehensive measure to address the more particular effects visited upon those who were prisoners of war in various conflicts.

The additional benefits to be granted, it must be said, are long overdue. No one, we are sure, will argue that there is not a special obligation to these veterans. However, the adjustments proposed are demonstrably modest in nature and scope. There are various estimates as to first-year cost, ranging from $65 million by the Congressional Budget Office—which we of the Legion believe are nonsustainably high—to $10 million by the House Budget Committee. It would be our recommendation that the amount of $10 million by the House Budget Committee.

It would be our recommendation that the amount of $10 million be included for this purpose.

Mr. Chairman, and members of the subcommittee, we have addressed in this statement certain of the concerns of the American Legion, as Congress proceeds with the funding of veterans assistance programs for fiscal year 1982. The 3.5 percent—and reducing—portion of the Federal budget that is apportioned for veterans programs is most certainly not excessive nor disproportionate to the other concerns and responsibilities of the Federal Government.

Any further percentage of reduction of funding for these programs will send a message to the Nation's veterans that they have become a burden to the Government they served. We must say again, that such a message will not be lost on those the Government hopes will serve in the future.

This is the reason the American Legion continues to stand for full funding for veterans programs. We do not believe we are asking for too much when we seek a minimum amount of $24.8 billion for our programs for fiscal year 1982. Less than that will most definitely not be enough to maintain the viability of those programs Congress has mandated in prior legislation.

Once again, we appreciate the opportunity to present our views to the subcommittee.

Ms. FISHER. We appreciate your coming to testify today. The Veterans Administration is one of the agencies that has been impacted as a result of the March budget revisions. The subcommittee will be carefully examining these proposed reductions when we consider the fiscal year 1982 appropriations bill. In this regard, we would appreciate any assistance that you might be able to give us.

Mr. LYNCH. I would point out for the record, in light of some of the statements made by the previous witness, that, of course, as far as the administration budgetary proposals on the Reagan bipartisan budget that has now been approved by both Houses, $600 million of budget authority, something in the neighborhood of $500 million in outlays were restored and agreed to by the administration, as well as by both Houses.

We hope that will be reflected when the money bills are prepared.

Ms. FISHER. Thank you very much.

STATEMENT OF CHARLES E. JOECKEL, JR., ASSISTANT NATIONAL LEGISLATIVE DIRECTOR, DISABLED AMERICAN VETERANS

Ms. FISHER. The next witness is Mr. Charles Joeckel.

Mr. JOECKEL. Thank you. Good afternoon.

My name is Charles Joeckel, I am assistant legislative director for the Disabled American Veterans.

I would like to begin my summary by stating that we appreciate the action taken by the subcommittee recently regarding the fiscal year 1981 VA supplemental request and the restoration of those employees will go a long way in assisting the veterans in the area of health care.

I guess to briefly summarize my statement, it touches on our major concern regarding VA funding for next year in the area of health care. We would point out as the American Legion did that the bipartisan budget resolution did restore many substantial funds to the VA budget for next year.

At this point, I would like to leave my statement and have that entered into the record.

Ms. FISHER. We will be happy to place your entire statement in the record at the conclusion of your oral testimony.

LETTER FROM VETERANS ADMINISTRATION

Mr. JOECKEL. I will read to you briefly a letter that we recently received from the Veterans Administration outlining their position on the proposed budget for next year.

The letter is a "dear concerned veteran," which was sent to some of the veterans out in California who are fasting over some of these budget cuts.

I would like to quote from the letter:

> In the overall figures for the Veterans Administration, the President's budget has set out budget authority for fiscal year 1982 by $24.2 billion. In addition, $597 million was added by the Reagan bipartisan budget resolution which will permit the Veterans Administration to operate with no reductions in personnel in the Department of Medicine and Surgery, operate with no reductions in veterans services.
>
> The President feels it is important to correct a widespread misunderstanding with respect to the funding of Vietnam veteran outreach centers.
>
> Many Vietnam veterans have contacted the President in recent days expressing their dismay that these outreach centers would be discontinued. The President in his nationally televised speech before the Congress on April 28 stressed his support of the Reagan bipartisan budget resolution which restored most of the previously proposed cuts in Government programs.
>
> The level of funding restored is more than enough to fund the average centers with a proposed budget of $26 billion for 1982, as opposed to only $12 million expended in 1981.
>
> The Congress has authorized the President's spending levels but now must pass legislation specifically extending the life of the outreach centers.

We believe that is coming from the House and Senate Veterans Affairs Committees.

> That has the overwhelming support of both parties in the House and Senate. The President wants you to know that he is specifically committed to keeping the outreach centers funded and open when Congress authorizes and appropriates funds for this program.

I wanted to bring that to the attention of the subcommittee because it outlines the administration's position, I believe, regarding VA medical care funding and the issues which affect the veterans in the Outreach Centers.

In addition, this letter dated May 28, 1981, addresses the issue of age as well. With that, thank you for allowing us the opportunity to appear here.

Ms. FISHER. I would like to ask you the same question that I asked a previous witness. If you were going to restore funding to the Veterans Administration in fiscal year 1982, what would be the programs which would take priority?

MEDICAL CARE PROGRAM

Mr. JOECKEL. Specifically, I would point to the medical care program as our highest priority. We believe that over the last few years the VA has taken several cuts in that area.

The loss of personnel, and to the extent that there are fewer veterans treated, say, in 1980 than were treated in 1979, that has a lot to do with the inflation factor that is built into D.M & S. This year I believe we are supporting a 9.8-percent increase in just general funds for D.M & S. We would like to see that and personnel levels kept at least where they are so that you can get back into the business of managing instead of shuffling people all around to treat veterans.

That is a real problem. In addition, we would like to see proper funding of the outreach centers and adequate funds for VA research.

VA research, in our view, is an area that attracts qualified personnel into the system. If you say that a VA physician can make more money on the outside, why would he come to the VA? Well, it is research, it is dealing with varying kinds diseases and disabilities that makes that service attractive.

You might see adequate funding there. I think those are our major concerns.

PREPARED STATEMENT

Ms. FISHER. Thank you. We will place your prepared statement in the hearing record at this point.

[The statement follows:]

STATEMENT OF CHARLES E. JOECKEL, JR., ASSISTANT NATIONAL LEGISLATIVE DIRECTOR, DISABLED AMERICAN VETERANS

On behalf of the more than 688,000 members of the Disabled American Veterans, I wish to thank you for allowing us this opportunity to appear here today to discuss the appropriation request of the Veterans Administration for Fiscal Year 1982.

Let me say, Mr. Chairman, that the DAV is grateful to you and the members of the Subcommittee for the recent action taken by the Senate regarding the VA's supplemental request for Fiscal Year 1981. By adopting Senate Concurrent Resolution #120 (sponsored by Senator Chiles) and by restoring necessary funding for some 1,280 health care personnel in the 1981 supplemental appropriation, you have our heartfelt thanks, as well as the appreciation of thousands of disabled veterans across the country who rely on the VA as their sole source of health care.

FY 1982 Appropriations

As you know, Mr. Chairman, the Veterans Administration is asking for funding of $24,202.5 billion in Budget Authority for Fiscal Year 1982. The amended request is some $744 million below the original January mark.

I am sure you are aware too, Mr. Chairman, that on March 26, 1981 the Senate, during its consideration of a reconciliation instruction measure (S. Con. Res. 9), entertained an amendment offered by Senator Lawton Chiles to restore some $330 million proposed to be cut from the VA's health care program. During the debate on this amendment, several Senators in the opposition indicated that the Office of Management and Budget had assured them of the following:

*No direct health care personnel would be cut from the Department of Medicine and Surgery;

*There would be no cut in health care services;

*There would be no impact on service-connected disabled veterans; and

*There would be no closing of VA facilities.

I am sure you have received many of these assurances from the Office of Management and Budget as well. However, closer examination of these assurances indicates, Mr. Chairman, they are totally false.

First, with respect to the OMB assurances that no direct health care personnel will be lost based upon the proposed FY 1982 budget reductions, may I point out on page 19-48I in Volume III of the VA Appropriations Summary-Revised that:

1. At the end of FY 1982 the VA will have 464 less nurses than were on board at the end of FY 1980--a reduction of 933 nursing staff personnel from the original January request; and
2. At the end of FY 1982 the VA will have 96 less doctors than were practicing in the VA at the end of FY 1980--down 297 positions from the original January request.

In addition, even if the OMB assertions were true, the VA health care system cannot be run by direct health care personnel alone. Clerical work and facility maintenance must be adequate to provide quality health care. It is simply not cost effective to have doctors and nurses performing these tasks in VA hospitals. However, this is occurring in many VA hospitals today.

Second, OMB assures there will be no cuts in health care services. However, VA outpatient visits in FY 1982 will be 1.5 million below the anticipated 1981 level and VA expects to treat 2,585 less inpatients in 1982 than were treated last year. Further, the Administration plans to eliminate funding for the Hospital Based Home Care Program--an extremely cost effective means to treat chronically and terminally ill veterans who would otherwise require long-term hospital or nursing home care. In this connection, I am submitting a letter that we recently received from a VA employee involved in this program. As you will note from the correspondence, Mr. Chairman, elimination of this vital program will indeed initiate short-run savings of $6.2 million but over the long-run, government expenditures will increase dramatically.

Third, OMB indicates that the proposed budget reduction will not affect service-connected disabled veterans. In the overall sense, Mr. Chairman, the cutback in the VA health care program will impact on the quality of care provided both to service-connected and nonservice-connected veterans alike. However, in a more direct sense, the Administration plans to eliminate the Vocational Rehabilitation initiatives enacted into law just a few months ago (P. L. 96-466). The reduction from the original January request for FY 1982 associated with the Vocational Rehabilitation initiatives is $2.7 million and 115 FTEE.

Vocational Rehabilitation, as you know, is strictly reserved for service-connected disabled veterans and the new provisions added by Public Law 96-466 are designed to place the disabled veteran into suitable employment once he has been successfully rehabilitated. The recision of these funds, in our opinion, fails to recognize the return to the government in terms of tax revenues--which would in effect, pay for the program--that the employment of these veterans would bring about.

Finally, OMB assures there will be no closures of VA facilities. This may be true for Fiscal Year 1982. However, Mr. Chairman, I call your attention to the testimony presented March 4, 1981 before the House Appropriations Subcommittee on HUD and Independent Agencies by the Acting Administrator of Veterans Affairs in which he states:

> I would say this, Mr. Chairman, that contemplating a cut of this magnitude I think brings into play the absoluteness of that as a consideration. At the moment, we are not considering closing any hospitals. In the spring review with the Office of Management and Budget we will be discussing the matter. It may be that with respect to hospitals in certain areas that we might consider the future closing of those hospitals in order to save personnel positions.

In addition, Mr. Chairman, I am submitting a copy of the VA March 2, 1981 appeal letter to the OMB and call your attention to the proposal to consolidate VA Regional Offices. It is indeed conceivable that some VA Regional Offices would be closed in the event the VA was required to adopt a regionalization plan--to say nothing of the disastrous effect such a proposal would have upon VA claims processing.

Frankly, when added together, these OMB plans would, in fact, dismantle the entire VA system. We look to you and the entire Congress to recognize these proposals for what they are and ask that you reject the FY 1982 funding reductions associated with VA Regional Office consolidation and the dramatic personnel losses in the Department of Medicine and Surgery.

Further, Mr. Chairman, it should be pointed out that the funding for Function 700--Veterans Benefits and Services--as contained in the Gramm/Latta version of the 1st Concurrent Budget Resolution (endorsed by the Administration and adopted by the Congress) rejects several of the Administration's assumptions made in the March 10, 1981 revisions to the Budget for Fiscal Year 1982. For example, the Function 700 totals as adopted assumes no reductions in VA health care personnel or in the medical care account; rejects the OMB proposal to consolidate VA Regional Offices; and assumes a 9.8% cost index increase in the Department of Medicine and Surgery.

Accordingly, we respectfully request that you restore the following amounts to the Fiscal Year 1982 VA appropriation request:

*$46.4 million - to restore 1,673 DVB personnel associated with consolidation of VA Regional Offices.

*$20 million - to provide for 4,950 additional inpatient beneficiaries.

*$2.7 million - to implement the Vocational Rehabilitation initiative contained in P.L. 96-466.

*$100 million - to restore 1.5 million outpatient visits and funding for the community nursing home and hospital based home care programs.

*$70.9 million - to restore personnel losses in DM&S associated with the closure of wards, facility activations and general system-wide personnel reductions.

*$40 million - to restore funding relative to the legislative cost-savings proposal to place a cap on VA physicians' special pay.

*$31.4 million - to continue the psychological readjustment program for Vietnam Era veterans.

*$42.8 million - to provide a 9.8% cost index increase in DM&S.

*$1 million - to adequately fund the rehabilitative research program.

*$1.6 million - to implement the provisions of P.L. 96-330 relative to the GRECC program.

*$8 million - to construct the Baltimore replacement hospital.

$365 million - Total

Our recommendations would increase Fiscal Year 1982 VA appropriations to $24,567.5 billion in Budget Authority and would set total appropriations at $23,040,619. I would point out, however, Mr. Chairman, that the restorations we propose remain $378.7 million in Budget Authority below the previous Administration's original January request and is well within the spending targets ($24.8 B.A. and $24.05 O.) as set forth in the 1st Concurrent Budget Resolution recently adopted by the Congress.

Together with the recommendations set forth in this presentation, the DAV supports full funding of the Fiscal Year 1982 Appropriations Request for the Veterans Administration.

Again, Mr. Chairman, I wish to thank you and the members of the Subcommittee for allowing us this opportunity to express our views on this very important subject.

VETERANS ADMINISTRATION APPEAL LETTER TO OMB

March 26, 1981

Disabled American Veterans

Gentlemen:

The Hospital Based Home Care (HBHC) team at the Medical Center very much appreciate your interest in and concern for the future of our program.

As you know, President Reagan has recommended that funding be ended for all 31 V.A. home care programs for veterans. Our program here at the Medical Center has existed since July 1974. We began with funding for five patients and have grown to an average daily census of 120 veteran patients.

We provide veterans with convalescent care, rehabilitation, nursing care through a long term chronic illness and terminal illness. All of this care is provided in the veterans' own home. The care is provided through a multidisciplinary approach to the whole person by nurses, physician, social worker, rehabilitation therapist, dietician, clinical pharmacist, and all other out-patient resources of the hospital.

Our purpose is to effect earlier discharge from the acute V.A. hospital and to maintain the veteran in his home and outside of other V.A. institutional settings. Not only does this significantly improve the quality of life and care of the veteran, but proves to be significantly cost effective. Our most recent cost breakdown figures from Fiscal Service show our cost to maintain a patient in his home to be $11.24 per day, as opposed to $36.44 per day in a V.A. contract nursing home, $71.31 per day for nursing care alone in the V.A. hospital, and $153.80 per day for all inclusive hospital care. (Figures available upon request)

The veterans serviced by our home care program represented 34,352 patient days out of hospitals or nursing homes for last quarter year alone. This type of care represented a savings of $902,266 over the cost of nursing home placement, and $4,897,377 in savings had the patient been in the V.A. hospital during that period.

The latest statistics about the V.A. Hospital Based Home Care program published by Washington, D.C. Central Office (also available upon request) show that 90.1% of veterans serviced by our program are over age 50, or World War II veterans. This group of veterans constitutes the largest age group of American veterans whose numbers will double over the next ten years when 2 of every 3 males over age 60 will be veterans. Our services must, therefore, be expanded to meet these veterans increasing care needs.

Most of these patients on our program are being cared for cancer or cardiovascular disease (stroke, heart attacks), or degenerative nerve disease; 61.2% of our caseload suffer from one or a combination of these medical conditions.

We are very proud to have been a part of the leadership role the Veterans Administration has played in home care of patients, and urge you to exert any influence you can to insure this invaluable program will not be eliminated. Elimination of this program would prove neither cost effective, or be in the best interest of the many ill and infirm veterans who gave so much for us and now need the best care we can provide.

We enclose our brochure which is given to patients upon their acceptance into our program. Note we invite their comments on the quality of our care, which we would be happy to share with you upon request.

Please do not hesitate to contact us at for more information.

Sincerely,

STATEMENT OF RICHARD M. RYAN, JR., D. SC. ASSOCIATE DEAN FOR MEDICAL SERVICES, HARVARD MEDICAL SCHOOL, BOSTON, MASS.

Ms. FISHER. Next, Richard Ryan, associate dean, medical services, Harvard Medical School.

Mr. RYAN. Ms. Chairman, I will summarize my statement.

First I will identify myself.

The content of my statement has been submitted as an official document.

Ms. FISHER. We will be glad to include your entire statement in the record at the conclusion of your remarks.

Mr. RYAN. My name is Dr. Richard Ryan, Jr., associate dean, Harvard Medical School, Boston, Mass. I currently serve as a member of the Veterans Administration Special Medical Advisory Group.

I am pleased to appear before you to testify on behalf of the Veterans Administration fiscal year 1982 budget. I wish to focus on the Department of Medicine and Surgery, D.M. & S., portion of the revised budget.

FOUR POINTS SUMMARIZED

I have summarized in my testimony the four points which I feel are most salient in examining the adequacy of resources for the Veterans Administration. I feel that if you examined the appropriation to the Veterans Administration over the past 5 years, you will find that basically there has been a very minor incremental growth at the bottom line. This clearly has not kept course with the inflationary factor in voluntary hospitals and in the general hospital sector in the United States.

There has been, generally, an average increase of approximately 5 to 6 percent in that bottom line in D.M. & S. At the same time, you have an aging population which incrementally increases each year by 400,000; that is to say, you have 400,000 additional veterans eligible for care over the age of 65 each year nationwide. This trend will continue into the 1990's at which time we will have 8 million veterans over the age of 65 eligible for care in this system. We are on a disaster course in terms of the funding base of the Department of Medicine and Surgery. And I feel to sit and look at what one would identify as the priority programs in a system of care which is absolutely necessary for various categories of eligible veterans is really an exercise in futility.

Are we adequately going to appropriate the funds for the veterans that we have indicated are eligible for care, or are we not? That is the $64 question.

I feel that we have neglected this problem in a significant way in the last several years. In my testimony I have indicated that there has been a 20,000-bed reduction in this system in the past 10 years. And I point out that that is comparable to closing 100-, 200-bed hospitals nationwide. That is no mean feat. I would challenge the people who have been looking at the accomplishments of Public Law 93–641 legislation under the Comprehensive Health Planning Act to match that record. That is very significant.

When I read General Accounting Office reports about productivity in the VA system, which ignore these kinds of achievements and accomplishments, I become very exercised. I feel the Federal medicine is important. I do not see anyone in the voluntary sector standing in line prepared to take on the impaired and handicapped aged veterans that we are caring for in this system. I feel we must recognize that this is a national resource which very easily could be incrementally neglected out of existence.

I think that this basically summarizes my statement. I would only add one additional item.

SOPHISTICATED TECHNOLOGY NEEDED

This system, to continue to flourish and provide effective care and to be effectively administered, requires sophisticated technology at least comparable to what you would have in the private sector. I think the kinds of line item restrictions that I have seen from the Congress and from OMB in terms of the acquisition of that kind of technology—here I am talking about computers, and I am talking about management and patient information systems which are required to manage this system—as long as this continues you are going to have inefficient management. You can't have it both ways. You can't say, "I won't give you the technology," and yet I hold you responsible to manage well. I would hope that the Congress would look at this and that they would free the hands of management to make the kind of management calls which are necessary to make this system efficient and then hold the administrators responsible for those judgments.

I know of no other way to oversee corporate and managerial judgments than that approach. I just suggest to you that we really do have to begin to look at the ways in which we can improve effective management.

BALTIMORE HOSPITAL

Last but not least, I have indicated in my testimony that we have a crisis in the situation in Baltimore in which the construction of the Baltimore hospital is held in jeopardy. The plans for the Baltimore hospital have been in the pipeline for 13 years. I will admit that there are statements made in the private sector that we are overbedded and indeed there is overbedding in certain areas of this country.

There is overbedding in pediatric beds, in obstetrical beds, in certain kinds of acute-care beds, but once again I don't see anyone standing in line prepared to take on a complex, chronic population, an aging population which will have many acute episodes in the coming years and for which we do not have adequate resources or adequate reimbursement.

In a recent examination of comparisons between medicaid episode costs and Veterans Administration episode costs, based on data published in the HCVA 1980 winter edition, we have found that the VA is approximately $300 below the medicaid episode costs.

I would suggest that somebody try to have a VA patient treated in the private sector at $300 less than the medicaid costs. The reaction would be very impressive.

Thank you. That summarizes my statement.

Ms. FISHER. I would just like to make a few comments regarding your concern over the future of the replacement hospital in Baltimore.

Recently, Senator Garn sent a letter to the VA requesting the agency to review all of its planned major construction projects and prepare for the committee a consolidated priority list which would include the criteria used for setting this list for hospitals across the country.

This letter was sent as a result of the proposed rescissions for both the Baltimore and Camden VA hospitals and the VA's intention to start preliminary plans for the design of a replacement hospital in Houston. The estimated costs associated with this replacement hospital is $400 million. Consequently, Senator Garn believes that at a time when the administration is proposing a rescission of approximately $162 million and the VA is proposing to construct a hospital that will cost approximately $400 million, it is time that the committee have a better overview of the agency's construction plans for the future.

Mr. RYAN. I can appreciate that, Ms. Fisher. I think that I, similarly, as an administrator and a planner, feel that it is terribly important to establish priority lists. You must know that there are a number of facilities in the VA system that are now 50 and 60 years old, some of them built in 1920 and 1921. You must also know that the replacement of hospitals has not kept track with the significant aging and problems in terms of existing facilities.

I feel that once again we are playing a very poor game of catchup and we are not keeping up with the needs of the system.

What I am asking is, can we have—I guess the same thing you are asking, and the committee is asking, can we have a strategic plan for facility updating, remodeling, replacement which will give us an indication of what kind of expenditures we are going to have over time.

I think that is the mandate. I don't think we can episodically, year by year, approach this problem and do it justice. I think this is one of those problems that we have to look at and project out what the needs of the system are. To achieve that, as I suggested in my testimony, one needs a long-range and strategic plan for this system. However, I do not know of any planners who can plan without the resources for planning and it gets back to—we are in a catch-22 situation—it gets back to the technology issue.

Ms. FISHER. Just one more question, if I may. You mentioned that the VA has had severe problems in attracting medical care personnel to VA hospitals and facilities due to low pay and lack of funds provided to the VA for research. Do you believe there is any way which the VA can attract more medical care personnel?

Mr. RYAN. I think one point which was alluded to by a previous witness from the DAV, Mr. Joeckel, was that research funding and the research base is necessary to attract both the junior and the senior physicians to the system and to retain those people.

Actually, when we look at the research funding base of the VA, it has suffered tremendously over the past several years.

I think that is one item. Second, I think, is to give them the kinds of comparable resources to provide high-quality care within the system that they have in the private sector. I can give you a personal illustration of that. I recently admitted an 80-year old relative of mine to a Veterans Administration hospital and he is a patient with a growth on his brain, he is also a delicate diabetic and has a cardiac problem. He needs a CAT scan. There is one CAT scanner available in the region. There is a truck which goes out to the other facilities. In a large neuropsychiatric hospital with patients who are going to present this kind of problem, it seems to me we should have the same kinds of resources available that we would have in the private sector. If we do not have those kinds of diagnostic resources available, we are going to turn off young house staff and we are going to turn off potential people who would come to the system. We are also going to turn off those clinicians who have to practice in the system.

I just think that there are many illustrations of this kind in terms of primitive or nonexisting resources that have to be looked to. I do accept that that is the obligation of the administration, to point out and bring it to your attention. Once it is brought to your attention, I think it is then a question of whether or not we can afford the resources to keep a first-class system.

I think if we have a first-class system, we will have no difficulty recruiting or retaining physicians.

Ms. FISHER. Thank you very much. Your prepared statement will appear at this point in the record.

[The statement follows:]

STATEMENT OF RICHARD M. RYAN, JR., ASSOCIATE DEAN FOR MEDICAL SERVICES, HARVARD MEDICAL SCHOOL

My name is Dr. Richard M. Ryan Jr., Associate Dean, Harvard Medical School, Boston, Massachusetts. I currently serve as a member of the Veterans Administration Special Medical Advisory Group.

I am pleased to appear before you to testify on behalf of the Veterans Administration fiscal year 1982 budget. I wish to focus on the Department of Medicine and Surgery (DM&S) portion of the revised budget.

There are four points that I wish to make:

1. The budget for the Department of Medicine and Surgery has been effectively declining for the past several years, while its workload has not. In order to accommodate to this declining resource base, the Department has made some programmatic adjustments. The major reductions, however, have been across the board, affecting staffing, supplies and equipment in all patient care areas. Whether these reductions result in fewer veterans being taken care of or in longer waits in the clinics and admission waiting lists, the result is to reduce the amount of medical care which the V.A. is providing to eligible veterans.

2. There are an inordinate number of people and offices outside of the Department of Medicine and Surgery which are involved in the management decisions concerning the mix of medical care programs and their capabilities. The Board of Directors of any major corporation understands that they should replace the Chief Executive Officer if they do not like the way the business is being run. If they want a strong manager, they do not tell him how to run the business. Internal DM&S management is significantly hampered by the involvement of OMB and various oversight groups in its internal management.

3. The V.A. Department of Medicine and Surgery is not an isolated hospital system which can be increased or decreased without having an impact upon the rest of the nation's health care delivery capability. It is not financed by dollars which can be isolated from general tax revenues. And, it is not an isolated part of the political system belonging only to a small group of self-interested constituents. Alterations in the scope, financing, and structure of the V.A. health care system should be done within the context of the nation's health care system, the availability of public funds to finance the health care needs of all medically indigent citizens, the needs of the defense sector for acute care beds in the time of a limited war, and perhaps above all, within the context of the medical care needs of those veterans who have served us in times of war and in peace.

4. An appropriate assessment of the FY82 budget request for the Department of Medicine and Surgery can best be done against the objectives and goals articulated in a long term strategic plan for the Department.

As you know, the revised budget request for DM&S is 330 million dollars under the January submission for 1982 resulting in an increase over the 1981 request of five percent. In fact, Mr. Chairman, DM&S has averaged a six percent per year increase for the past five years. Inflation alone has averaged over six percent during this same period of time. When we contrast the five percent per year increase in V.A. medical care financing with that of the private sector, which has averaged 11 to 13 percent increase per year, we must conclude that the V.A. health care system is now more efficient or it is not being funded at that level required to meet the medical care needs of those veterans who are seeking care.

DM&S is now more efficient than it was. During the past ten years the inpatient workload has doubled and the total number of outpatient visits has tripled while the effective funding for the department has stayed level. In addition, the V.A. has reduced its bed complement by 20,000 beds during the past decade. This is equivalent to closing one hundred averaged sized community hospitals.

The increased efficiency of DM&S is only part of the picture. There are insufficient funds to care for all of the veterans who are seeking care. Veterans are being turned away from V.A. hospitals and clinics. The Department is taking care of veterans who are older and sicker. The waiting periods for clinic appointments and the waiting lists for scheduled admissions are getting longer. Additional resources are required by the Department in order to keep pace with the increasing incidence of illness in this ageing veteran population, to improve efficiency even further and to maintain the high quality of care currently being provided.

For example, modern management assumes that appropriate computer systems will be available to permit efficient operations. Practically every hospital in the private sector is using computerized management systems to reduce the costs of laboratory tests, to provide pharmacy management support, to handle medical records, and to provide administrative support to the director and top management. The V.A. has an inexcusable score card. Among the 220 or so V.A. hospitals and clinics there are 8 with integrated clinical laboratory, scheduling, admission and discharge systems and 7 hospitals with a computerized pharmacy system. There is one archaic admission and discharge system which serves 17 hospitals, one additional scheduling system and no medical record management systems of which to speak.

Some of this disparity is due to internal V.A. organizational problems in which DM&S must ask the Office of Data Management and Technology for permission to buy a computer of any size. In a time when the major businesses in the nation utilize table top computer systems costing $2,000 to $3,000, it is unthinkable that hospital directors are not allowed to make local decisions about computerized management systems which they need to provide efficient and improved medical care. Some of this disparity is due to circumstances byeond the control of the V.A. It is difficult to understand, for example, why the Office of Management and Budget denied a recent request by DM&S to improve its pharmacy and scheduling systems. And some of this disparity is due to the pre-1975 requirement for centralized control over the acquisition of computer hardware. The development of advanced computerized management support systems for local and central management will require that you discontinue the embargo on the acquisition of computers and software.

Other, externally imposed restrictions can significantly inhibit the ability of the Department to provide high quality, low cost medical services to eligible veterans. For example, it has been decided in discussions between the V.A. Administrator and the Office of Management and Budget, that hospital closings and mission redefinitions for facilities are unnecessary at this time. It is further stated in Mr. Wilson's testimony before this committee that economies will be achieved by the system without the reduction of workloads or without changing the current range of benefits. It is difficult to see how this can be achieved without compromising the quality of care and the current quality of DM&S medical programs.

As has already occurred, reductions in the number of nonservice connected veterans cared for by the Department results in a significantly altered case mix in the system. As you cut back on the care for the ambulatory low cost patients, you are left with the high cost intensive care for the very ill. Such a shift in the case mix will impact every facet of care, all programs... clinical, academic and research.

Mr. Wilson has suggested that the question of hospital closings, mergers and consolidations will be discussed at a later time, in the Spring Briefing with OMB. If that prospect is real, it would appear important to all concerned to insure that consumers, providers and affiliated teaching institutions be involved in that process. The V.A.'s Department of Medicine and Surgery can not be manipulated and adjusted as if it were independent of the many factors which influence our political and medical care system.

The V.A. Health Care System is a national health resource. It is annually responsible for the care of over 3,000,000 veterans. It annually trains 37 percent of the U.S. physicians filling approved medical residencies, 31 percent of all U.S. medical students, 17 percent of all dentists engaged in post-doctoral training, 15 percent of all graduate psychology students and over 11 percent of all nurse students at all levels.

Changes in the medical service base of the V.A. will affect medicine as it is practiced throughout the land. The V.A. is not a separate system of care in the nation, it is inextricably inserted into our nation's health delivery system.

The fantasy that the voluntary health care system could or should provide the care offered by the V.A. is both absurd and dangerous. The alternative to V.A. health care for many of the patients DM&S takes care of is not private sector care, it is no care. Many of those who are receiving care in the V.A. have been abandoned or rejected by the private sector. Many have exhausted long term care benefits provided by Medicaid and Medicare. Others are receiving rehabilitation care which is unavailable elsewhere. Most are chronically ill and would find no option for care in the private sector. In certain cases, such as spinal cord injury care, multiple loss of limbs, blindness, and other types of cases, the Veterans Administration Department of Medicine and Surgery affords the only hope.

By the 1990's, two out of every three American males over age sixty-five will be veterans. Eight million veterans 65 and over will require hospitalization, nursing home care and long term community support services. In FY 80 11% of this age group received some medical care in the V.A. Chronic and long term care services are already overburdened throughout the nation. Where will they receive this care in the 90's? Social Security is threatened with bankruptcy in 1982-83, and Medicare costs have increased at two times the rate of the V.A. budget over the past ten years. In the midst of this developing long-term chronic care crisis, a decision has been made to limit the size and growth of the Geriatric Research and Education Centers in the V.A. These Centers focus the professional's attention upon the medical care of our elderly veterans through education and training activities, research programs and model patient care settings. Limiting their growth is an ostrich-like denial of the reality which faces the V.A. now.... indeed will face the nation in 10 years.

Another example of the integral role the V.A. plays in this nation's social fabric: The Department of Defense's hospital backup support role played by the V.A. is familiar to those of you who arrived in the Congress during the dark days of Korea and Viet Nam. The potential impact of a limited war and demands for 20,000 immediate beds is outlined in the Maximus Report prepared for the Department of Defense in 1979. Only the V.A. with a national system of care can logistically meet this national defense need.

Each day, we, who have invested so heavily in this system, hear discussions about cutbacks in staffing, equipment, construction, eligibility, research and training. Instant solutions for short run economies are disseminated lightly. For example, the restriction on DM&S acquiring CAT scanners comes without concern for the constraints such an action imposes upon veteran's diagnostic care. CAT scanners are now an integral part of the diagnostic armamentarium used in acute and chronic care. Their use, distribution, and cost are no longer considered to be important issues. As was demonstrated recently, they are essential in the diagnosis of acute trauma. How can OMB and others presume to deny the veteran access to acceptable quality of medical care without being accountable for such decisions? Must this system of care continue to depend on the dangerous practice of transferring acutely ill or seriously wounded patients to community hospitals for CAT scans?

A recent example of what I am concerned about is contained in the fiscal year 81 legislation on the Veterans Administration Medical Care budget supplement. Therein is a precise prescription concerning ceilings on full-time permanent staff years and non-ceiling staff years. It is appropriate for Congress to specify an overall ceiling on FTEE. However, management needs to be unencumbered from over restrictive OMB and Congressional formulae which inhibit sound management. (See attached illustration.)

A final example of nearsighted decision making. The Baltimore Hospital replacement, the only regional tertiary care facility in Maryland, is cancelled or deferred after thirteen years of planning. Where will these patients receive care if not from the V.A.? What different dollars will be used to pay for their care, if any? What will the quality of care be if it continues in physically deteriorated facilities? Is this a harbinger of things to come in the system?

Can the V.A. health system continue to absorb across the board cuts in program and staff and continue to meet the expectations of a generous Congress? How many veterans is DM&S responsible for? What, exactly are their entitlements to V.A. medical benefits, and can the V.A. deliver the required care in a high quality, timely manner? I suggest that we may be on the verge of an eligibility crisis for the Veterans of this nation. I am uncertain as to whether the system can provide for all those who are currently entitled.

I have discussed just a few of the many factors and issues which affect the V.A. Department of Medicine and Surgery and influence the evaluation of its budget request fo. Fiscal Year 1982. It is impossible for me, and I suspect very difficult for others, to rationally criticize this proposed budget. There is no road map. There is no way of knowing who the Department should be taking care of, what their medical care needs are that the Department should be servicing for them and what the expected and appropriate costs of such services will be. How adequate is the Veterans Administration Department of Medicine and Surgery budget for 1982? It is probably inadequate to do all that the V.A. is expected to do.

In spite of the many studies and reports which have been done on the V.A.'s Department of Medicine and Surgery, we still do not have a long term strategic plan for the Department. A rational planning program involving all appropriate constituencies is necessary. Such a program, however, requires resources and a commitment by the Congress and the Administration to identify and support the best solutions. We are responsible to the public for the operation and maintenance of a high quality health care system for eligible veterans, and yet we do not perform even the most rudimentary long term and strategic planning. The collage of conflicting legislation enacted by Congress since the days of the Veteran Bureau must be reviewed, amended and put into the context of the 1980's if this budget or any other V.A. health care budget is to be fairly evaluated.

In summary, I have attempted to point out that V.A. management does not have the tools to plan and scope its system adequately. We have touched upon issues of importance to this committee and have developed a few outstanding illustrations of how DM&S management is being hampered in doing its job because of over control by others and by poorly defined legislative entitlements which threaten to swamp the system. We have pointed out that the V.A. is an essential part of the public financing of this nation's health and welfare system, that it is an inseparable part of this nation's health manpower educational complex and that it is an integral part of the nation's health care delivery system. In addition, the Department of Medicine and Surgery plays a key role in health care delivery research and development. And we have described its vital public role as a national defense and disaster care backup resource. Finally, we suggest that the solution to all of these complex problems is to have a long term and strategic plan for the Department of Medicine and Surgery, one which is developed by all of the involved constituents.

We can not here and now explicitly define the needs, mission and goals the strategic and long range plans of the Department of Medicine and Surgery. This appropriations committee, however, can serve as the stimulus to initiate the mandate for a long term management plan for the Department... a road map which can be used to chart an acceptable course for the Department, one which the Department can use to account for its own actions and decisions and one which we all can use to evaluate the Department's performance and proposed budgets.

As an administrator, planner and academician, I urge you to approach the promised solutions and economies of the FY 82 budget with extreme caution.

I thank you for these precious minutes of testimony and hope that you will find my brief remarks to be of help in your decisions.

STATEMENT OF JOHN M. DENNIS, VICE CHANCELLOR OF HEALTH AFFAIRS AND DEAN, UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE, ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Ms. FISHER. The next witness is John M. Dennis.

Mr. DENNIS. I am vice chancellor of health affairs and dean, University of Maryland School of Medicine, Association of American Medical Colleges.

Mr. Chairman and members of the subcommittee, the association's interest in the Veterans Administration's medical care programs emanates from the highly productive relationships that have developed between the country's medical schools and the VA hospitals since the end of World War II. Affiliation agreements encompassing patient care, medical education, and research are now in force between 102 medical schools and 141 of the existing 182 VA health care facilities. These arrangements have proved enormously beneficial to our Nation's ill and disabled veterans, the objective for which the system was designed.

The VA health care system is currently under great duress. Appropriations for medical care for veterans, including fiscal year 1982 requests, have increased on the average of only 7.7 percent per year since 1977 while the Consumer Price Index has risen by an average of 10 percent, and the costs of civilian hospital care have increased even more rapidly.

Essentially, resources for the veterans health care have been steadily losing ground to inflation and fallen behind standards of civilian care since 1977. This deterioration will continue inexorably unless this committee acts to disapprove the many potentially serious retrenchments the administration has proposed in VA medical services.

The health care services provided by the Veterans Administration function are an essential safety net for our Nation's sick and disabled veterans. Thus, it is difficult to understand why the President has requested a smaller appropriation for these programs than his immediate predecessor.

CONGRESSIONAL INTENT CIRCUMVENTED

This year the OMB circumvented congressional intent despite this subcommittee's efforts to increase the number of direct health care personnel. Under congressional leadership, some 1,280 such positions were approved for the fiscal year now in progress. However, the OMB has, thus far, succeeded in preventing the VA from recruiting this desperately needed staff. Initially, this was accomplished via a hiring freeze, followed shortly thereafter by the deferral of $29 million until the last quarter of the year. Then, as a final measure, the OMB reduced the agency's supplemental pay request for medical care by $29 million.

Essentially, the VA has been deprived of congressionally authorized staff increases. We, therefore, loudly applaud the subcommittee's recommendation that the deferrals be disapproved and urges that the subcommittee consider further action to insure that in the future the directives of the Congress are promptly implemented.

Equally as imperative as the fiscal year 1981 restorations is the necessity for this subcommittee to act to forestall the imposition of the adminis-tration's proposed fiscal year 1982 staffing decrease that would result in the loss of over fiscal year 1982 staffing decrease that would result in the loss of over 5,000 health care personnel.

SHORTAGE OF HEALTH CARE WORKERS

The VA's overriding need for increased numbers of health care workers is clearly evidenced by its low staff-to-patient ratio that the President's proposals would bring to only 244 per 100 patients in fiscal year 1982. This compares to a ratio of 333 medical care staff per 100 patients in the private sector. Moreover, diminishing the complement of staff, at best, marginally adequate, as the preceding figures illustrate, will also impede the VA's efficiency and effectiveness in delivering health care.

The VA itself has attributed its performance since 1970 in treating more patients utilizing fewer beds to increased personnel levels. However, to quote the VA, "further improvements in terms of decreased length of stay will be dependent upon additional staff improvements."

Thus, enactment of the current request would prevent the VA from effectively delivering care of high quality. The AAMC, therefore, urges that the subcommittee approve the January request for fiscal year 1982 of some $7,004,945,000 in order to assure that our Nation's veterans will receive the caliber of medical care they so rightfully deserve.

We also might add here that we support full implementation of the VA special pay bonus for physicians Congress enacted last year in the belief that it is urgently needed to insure staff retention and thus further enhance the overall quality of care.

The excellence of the care a patient receives is as dependent on the availability of up-to-date tools and facilities as it is the skill of the attending physician.

DEFERRAL OF CONSTRUCTION

The VA's hospital facilities must meet and maintain the high standards at all times; there can be no excuse for allowing these facilities to fall into disrepair. Thus, the association views with great trepidation the decision of this subcommittee to sanction, by its silence on the issue, the deferral of construction and to publicly endorse the cancellation of two other construction projects.

A case in point is the decision to cancel plans to construct a new hospital in Baltimore, a facility badly needed to replace three older and inadequate installations that must undergo extensive modernization just to correct basic life safety code deficiencies.

There is a substantial doubt that cancellation of the construction of the replacement hospital in favor of upgrading the other facilities will save an appreciable amount of taxpayers money.

In 1979, the costs of the replacement hospital—a 400-bed acute care facility—were estimated to be about $87 million, while revamping the three older hospitals would require $121 million. Thus, in 1979 the costs of the new hospital and attendant benefits to its patients in terms of location, coordination of care, and shared facilities with the University of Maryland, weighed heavily in its favor and the Congress approved its construction. However, the subcommittee, citing rising costs, recently recommended that this project be terminated, despite the fact that there is no clear evidence that the costs of the alternative modernization has not increased correspondingly or that the other benefits associated with the new hospital can be captured by the older medical establishments.

It is of paramount importance that the Government maintain its commitment to the Nation's veterans to provide them with high-quality medical care. In the service of this goal, the association strongly urges the subcommittee to reinstate the canceled projects, move ahead swiftly with all nine deferred construction projects, and thus approve a fiscal year 1982 appropriation of $649,909,000.

The medical research conducted by the VA represents a unique Federal intramural program in which clinician investigators focus on problems more or less uniquely relevant to the health problems of veteran patients.

MEDICAL AND PROSTHETIC PROGRAM

The medical and prosthetic research program is a very significant component of the overall VA enterprise. The quality of this endeavor is attested to by the fact that two of its biomedical scientists are recent Nobel laureates.

This program is extremely important, not only in its own right, but also because the inherent value of research environment indirectly improves the quality of health care delivery by enhancing the ability of an institution to attract and retain highly competent medical staff. Thus, a stable, well-funded research program impacts positively on patient care, as well as the quality of the professionals that deliver care.

The AAMC applauds the decision of this subcommittee to disapprove the proposed deferrals in this vitally important area and urges enactment of a fiscal year 1982 appropriation of $155,381,000. The administration's request would result in the loss of 308 full-time equivalent investigators—224 in medical research, 46 in rehabilitation research, and 38 in health services research.

If enacted, this proposal would mean a significant diminution in the VA's research efforts, as the number of full-time employees would decrease from the fiscal year 1979 level of 4,416 to 4,293 in fiscal year 1982, or by 3 percent. This is well below the 4,601 level advocated by the previous administration. The veterans of the Nation rely upon the VA to provide them with high-quality medical care. This, by necessity, entails the support of adequate numbers of staff, construction, and remodeling of medical facilities and maintenance of a vital biomedical research program.

The AAMC urges this subcommittee to once again take the lead in insuring the continued health of the VA's medical care enterprise and approve a fiscal year 1982 appropriation that reflects its continued commitment to this especially deserving population.

Ms. FISHER. Thank you.

As I indicated to the previous witness, Senator Garn has requested the VA to reprioritize the agency's hospital construction lists. The subcommittee is expecting that VA will be providing us with that list very shortly.

Certainly there has been a lot of information coming to the subcommittee from the Maryland people on the Baltimore hospital, as well as the people from Pennsylvania and the New Jersey area on the Camden hospital. While Senator Garn is personally committed to the administration's overall budget reductions, he also believes that the subcommittee's overview of the hospital construction program should be increased in order that the committee has a long-range strategic plan for the future. Hopefully, in having such a list, we won't have to deal with canceling of projects each year.

Mr. DENNIS. I think this is the proper way to go about it, rather than just arbitrarily reduce the budget, because this program, as Dr. Ryan said, has been in the planning phase for 13 years.

There is already $16 million of the $87 million roughly spent. They haven't stopped at this late hour when the money was there. So there is about $16 million that has been washed down the drain if the project is not completed.

When you realize that the other institutions in the city—you have three other veterans hospitals—none are adequate for acute medical-surgical programs of this kind because of the time of construction and because of the reasoning for construction, the latest one there, none of them are adequately equipped.

There has been no money spent on the 10 hospitals. They have had those three hospitals for the last 10 years. They are not adequate from the standpoint of technology or any of the other modernization plans that have been done. Just to bring them up to the life safety code would cost $20 to $30 million alone. So I don't think we are saving money by arbitrarily reducing cutting the budget.

Ms. FISHER. As I said, I think that is one of the reasons why we felt that at this time it was very important that the subcommittee, as well as the full committee, take a complete examination of what the Veterans Administration is proposing for the hospital construction program and to, perhaps, prevent cancellation of projects in the future.

Mr. DENNIS. I think it is also important to emphasize the Association of Medical Schools and the Veterans Administration hospitals not to be anecdotal, but I am sure it can be multiplied many times, when the University of Maryland became involved with the Veterans Hospital in Baltimore, the length of stay with veterans was about 22 days.

Within 1 year, with the recruitment of good people, because of the research possibilities and association with the medical school, the length of stay was reduced to less than 10 days in 1 year. So I think this is one anecdote which shows the real value of the association with medical schools and VA hospitals.

Certainly, if we have VA hospitals which do not have the technology so that we can take care of these people, I don't think medical schools across the country would be interested in VA hospitals.

Ms. FISHER. Thank you very much.

STATEMENT OF DONALD H. SCHWAB, DIRECTOR, NATIONAL LEGISLATIVE SERVICE, VETERANS OF FOREIGN WARS OF THE UNITED STATES

Ms. FISHER. Next, I would like to welcome Donald Schwab.

Mr. SCHWAB. Thank you, Madam Chairman.

With the understanding that my entire text will be published in the record, I will not belabor you with an overview of the fiscal year 1982 budget for the Veterans Administration.

Ms. FISHER. Your entire statement will be included in the record at the conclusion of your summarization.

SUMMARY OF STATEMENT

Mr. SCHWAB. Suffice it to say that the administration's March 10 budget, which would have cut $831 million out of the VA budget and 7,000 personnel, would have done absolute violence to the hospital and medical care system and also the Department of Veterans Benefits.

Subsequently, of course, both Houses have passed the Reagan bipartisan budget resolution which restored $400 million to the VA budget; approximately 7,000 personnel. We are not in such bad shape there. We do have some concerns with the budget as it is. For example, there is no money in the budget to provide for the scholarship program for VA physicians and nurses as authorized by Public Law 96-330.

This is unfortunate, because very recently 300 hospital beds had been closed due entirely to the lack of registered nurses.

Congress passed Public Law 96-330 over the veto of the President during the 96th Congress, expressing their need for scholarship programs to attract American-trained, full-time physicians to the VA.

We would ask that $7 million be allocated in the budget for physicians and $5 million for nurses in the scholarship program authorized by Public Law 96-330.

We regret that construction has been canceled for the Baltimore VA hospital and also the facility in Camden, N.J., which was to have been a model geriatric center. We hope that the funding can be found for these hospitals, but if it cannot, that they be deferred instead of canceled. Both facilities were fully justified by two Presidents and the Veterans Administration, and we believe they are needed within the VA system.

STATE-APPROVING AGENCIES

Another area of concern, Madam Chairwoman, is that funding for State-approving agencies has been cut from $17 million to $8.1 million in the budget.

The State-approving agencies have done a great service for veterans and the Veterans Administration in certifying institutions for accreditation, for VA study. They have uncovered fraud and abuse that saved hundreds of thousands of dollars.

We request that $6 million be restored for a total budget of $14 million for the State-approving agencies which I understand will permit them to perform as they have in the past due to a somewhat diminished workload.

This concludes my summary of the testimony, Madame Chairwoman. I will be happy to respond to any questions you may have.

Ms. FISHER. Thank you.

What do you or what does your association believe are the programs which are of high priority and should receive additional funds over the March budget request?

Mr. SCHWAB. There is no question that the VA hospital and medical care system is the primary concern of all the programs of the Veterans of Foreign Wars.

It is very important program compensation has not been in jeopardy. They have provided well for those received due to service-connected disabilities. Another area that does concern us very deeply are the 58 fully functional VA regional offices. The March 10 markup of the budget had cut funds for these 57 VA regional offices with the intent of having one central regional office and 57 contact centers which would do a great disservice to the veteran population because with the contact center, as opposed to a regional office, a veteran can merely go file a claim. The claims filed, on which the case is considered, would not be available at the contact office, as it is now with the regional office. There would be no adjudication of claims at the contact office as there is now at the regional office.

The Senate report I cite in my prepared text restored the money for continuation of 58 fully functional regional offices, only because it was not feasible to close them down in the next 18 months.

The intent is that when the computer system becomes fully functional in 1985, to reduce the regional offices, contact offices in 1985 or 1986. For the record, we oppose this.

Ms. FISHER. Why does your association oppose this proposal?

Mr. SCHWAB. It currently takes the VA approximately 6 months to resolve a claim. By testimony given by the Chief Benefits Director, she stated that if they consolidated the regional offices into one, this same claim would take 18 months. In addition, our representatives, attorneys, anybody else, that represents clients would not be able to properly represent them at these contact offices because of the absence of records. So the claimant would be denied real full and fair hearing at that level, whereas a veteran will travel within the State to appear before a board to present his case.

For a number of reasons it might not be possible for that same veteran to travel the half distance of the country to meet with a single board. It would adversely affect claims.

Ms. FISHER. Thank you very much.

Mr. SCHWAB. Thank you.

PREPARED STATEMENT

Ms. FISHER. The full text of your prepared statement will be incorporated into the hearing record at this point.

[The statement follows:]

STATEMENT OF DONALD H. SCHWAB, DIRECTOR, NATIONAL LEGISLATIVE SERVICE, VETERANS OF FOREIGN WARS OF THE UNITED STATES

Thank you for the privilege of appearing before this Subcommittee to present the views of the Veterans of Foreign Wars of the United States.

My name is Donald H. Schwab and it is my privilege to serve the more than 1.9 million men and women of the Veterans of Foreign Wars as their National Legislative Director.

Mr. Chairman, the Carter Administration's proposed fiscal year 1981 budget was $22.5 billion in outlays and the fiscal year 1982 budget, $24.43 billion in outlays. The Reagan Administration's revisions of March 10, 1981 reduced the 1981 budget by more than $200 million and the 1982 budget by $831 million for a total reduction of more than $1 billion over an eighteen month period. Proposed personnel cuts (FTEE's) for 1981 are 1,837 and for 1982, 7,995 -- totaling a loss of 9,832 personnel. The 1981 funding and personnel reductions have been in progress. Those programmed for 1982 are as follows:

REAGAN ADJUSTMENTS TO CARTER FISCAL YEAR 1982 BUDGET

	BA	O	FTEE
Revise cost-of-living increase in compensation and pensions from 12.3% to 11.2%	-103.9	- 96.2	0
Revise effective date of elimination of flight and correspondence training from October 1 to July 1, 1981	0	0	0
Reduce outpatient non-service-connected medical visits and discontinue readjustment counseling program	-106.4	-106.4	-2,326
Combine hospital wards with low census and occupancy rates and general increase in medical employee productivity	- 52.4	- 52.4	-2,220
Revised schedule for facility activation and reduction in community home census	- 37.3	- 37.3	- 203
Medical savings through reduction of overhead and personnel costs	-149.8	-149.8	-1,089
Cap physician special pay by restricting to no more than 12% of total funding appropriated	- 40.0	- 40.0	0
Rescission of Baltimore and Camden hospital construction. Defer nine construction projects -- Denver, Long Beach, East Orange, St. Albans, New Orleans, Chillicothe, Washington, D.C., Palo Alto and Gainesville	- 71.0	- 91.0	0
Reduce minor construction personnel and program	- 32.0	- 8.0	- 61
Consolidation of DVB claims processing and Loan Guaranty Function into centralized operation	- 46.4	- 46.4	-1,673
Close St. Paul Data Processing Center with transfer of workload to other centers	- 3.0	- 3.0	- 140
Other general operating expenses savings through reduction of overhead and personnel	- 16.9	- 16.9	- 209
Eliminate proposal to extend delimiting period for disadvantaged veterans by two years	- 64.6	- 64.6	- 74

REAGAN ADJUSTMENTS TO CARTER FISCAL YEAR 1982 BUDGET

	BA	O	FTEE
Adjust proposal to reduce beneficiary travel costs to change effective date to July 1, 1981 and apply a $5 deductible in lieu of $10	- 20.0	- 20.0	0
Revise interest rates on insurance policy loans to approach current market conditions	0	- 96.0	0
Reduce supply and canteen revolving funds	0	- 2.9	0
TOTAL -- REAGAN ADJUSTMENTS	-743.7	-830.9	-7,995

In all fairness, Mr. Chairman, we cannot take exception to the proposed decrease from 12.3 percent to 11.2 percent in compensation for veterans with service-connected disabilities at this point in time since we do not know what the Consumer Price Index will reflect when enacting legislation clears Congress. The position of the V.F.W., as stipulated in one of our priority legislative goals, is that the cost-of-living increase in compensation be in concert with the increase in the CPI since that granted by Public Law 96-385.

On the other hand, Mr. Chairman, other proposed reductions are horrendous and would do violence to the Veterans Administration hospital and medical care system and the Department of Veterans Benefits which services the claims of veterans, their dependents and survivors. Furthermore, they are diametrically opposed to statements of the President and the Republican Party Platform.

While campaigning last August, President Reagan addressed our National Convention in Chicago, Illinois and stated among other things, " . . . to me, it is unconscionable that veterans in need are denied hospital and medical care because of inadequate funding which has closed hospital beds and cut health-care personnel within the VA." Amplifying this commitment the Republican Party Platform reads in part:

"We will maintain the integrity of the Veterans Administration. We will seek to keep it separate and distinct from other federal agencies as the single agency for the administration of all veterans' programs. In particular we feel it is of vital importance to continue and expand the health programs provided to veterans through the Veterans Administration hospitals. Here we see the need for increased access to care, especially for older veterans.

"We further advocate continued and expanded health-care for our Vietnam veterans and consider it vital for the Veterans Administration to continue this program for the rehabilitating of the disabled as well as its job training efforts."

Mr. Chairman, of the more than 9,000 personnel scheduled to be slashed from the VA, more than 7,000 would be within the Department of Medicine and Surgery and of those, more than 6,000 would be eliminated in indirect medical care personnel. Notwithstanding the Administration's contention that these reductions would not include professional health-care personnel, budget documents indicate reductions of 297 physicians, 933 nurses and 104 psychologists. Hospitals cannot be operated by professional hands-on medical care personnel only and it is essential that adequate support personnel are available at all times. As a result of funding and personnel reductions within DM&S, the following proposed actions, among others, would spell the demise of the VA hospital and medical care system as known to us today:

1. Operating hospital beds would be reduced from approximately 83,000 to 78,900 and the daily patient census from approximately 67,000 to 64,000.

2. Sixty wards would be consolidated leading inevitably to the closure of entire hospitals.

3. Outpatient visits for veterans suffering non-service-connected disabilities would be reduced by 1.7 million.

4. The 91 outreach centers for Vietnam veterans suffering readjustment problems and authorized by Public Law 96-22 would be eliminated.

5. Veterans with non-service-connected disabilities seeking care at VA facilities would be required to pay the first $5 of beneficiary travel each trip. (The Administration had first proposed charging these veterans the first $10.)

6. There is not funding for the scholarship program for physicians and nurses authorized by Public Law 96-330 and, in addition, special pay for physicians and nurses would be capped at 12 percent of the total funding appropriated.

In addition, Mr. Chairman, and directly related to the health-care of our nation's veterans, the Administration has canceled construction of the 400 bed acute care hospital at Baltimore, Maryland and the 242 bed intermediate care hospital at Camden, New Jersey consisting of 120 nursing care beds and 122 extended care beds of which four were to have been intensive care beds. The need for the Baltimore hospital of 400 beds consisting of 200 internal medicine, 120 surgical and 60 psychiatric beds has been fully justified. The Camden hospital originally consisting of 480 beds, 300 of which would have been medical, surgical and neurological, 60 acute psychiatric beds and a 120 bed nursing home was also fully justified. Figures available at the time indicated that the national average of VA beds per 1,000 veteran population was 3.2 beds. The ratio in the Philadelphia/South New Jersey area was 0.7 beds per 1,000 veteran population. Financial constraints reduced that facility to 242 beds as previously described. In addition, there are nine other construction deferrals as follows:

1. Denver, Colorado -- one-year deferral of addition to existing facility.

2. New Orleans, Louisiana -- two-year deferral of addition to existing facility.

3. Washington, D. C. -- two-year deferral of addition of a nursing home and parking facility.

4. Long Beach, California -- two-year deferral of addition of research and education.

5. Palo Alto, California -- two-year deferral of addition of surgical and related functions.

6. East Orange, New Jersey -- two-year deferral of renovation projects.

7. St. Albans, New York -- two-year deferral of laundry facility.

8. Gainesville, Florida -- two-year deferral of expansion of research and education.

9. Chillicothe, Ohio -- two-year deferral of a clinical addition and modernization.

The one and two-year deferrals of these other construction projects with ongoing double digit inflation will make them even more costly. Quite frankly, we fear the eventual cancellation of these projects also.

Mr. Chairman, we of the V.F.W. have stated for years that one of the primary objectives of the Office of Management and Budget is to eliminate the VA hospital system by letting facilities deteriorate and starving it with inadequate funding and personnel. The proposals enumerated above constitute a master plan toward that end. Our assertion has been denied and even ridiculed by the Office of Management and Budget. However, that this is the case is confirmed by a memorandum which has come into my possession bearing the heading "Executive Office of the President -- Office of Management and Budget -- March 5, 1981," the appropriate portion of which is herein quoted: "However, in current economic conditions, some delays can be in the hospital construction program can be accomodated without significant shortrun damage to the VA medical system. The one chosen here do not have imminent hazards in existing structures and do not affect bed levels significantly. In addition, the existence of excess medical care capacity in many areas of the United States make questionable the need for a separate VA medical system. (Underscoring supplied) This Administration will conduct a complete review of alternative methods for providing readily available quality medical care for eligible veterans. The continuation of currently planned construction in overbedded areas may add to the excess and prove to be a wasteful Federal expenditure." Subsequently, the Director of the President's Office of Management and Budget, David A. Stockman, refuted the foregoing statement indicating that this was not the intent of the Administration. However, and obviously, the thought had to be there for it to have appeared in print.

Cuts in the VA's Department of Veterans Benefits were programmed for 377 in 1981 and 1,874 in 1982 for a total of 2,251 employees. However, and due to anticipated budgetary constraints, DVB notified regional offices that 1,630 personnel would be cut by September 30, 1981. A station-by-station breakdown of these reductions is appended to my testimony. However, last month the Chief Benefits Director of the Veterans Administration made a hotline call to all regional offices deferring personnel reductions until after the budget is finalized. To accomplish these reductions, it was the intent of the Administration to close 57 of the 58 VA regional offices as such and consolidate claims processing and the loan guaranty function into one centralized location. Such action would leave only a contact office at all other locations where a veteran could do little more than file a claim since no records would be maintained at these points and adjudication of claims would no longer be accomplished locally. The VA alternative was to have three fully functional regional offices -- one on the West Coast, one on the East Coast and another in the central portion of the United States. Under such an operation the VA admitted a claim presently taking six months to resolve would take at least 18 months.

Obviously, Mr. Chairman, reducing VA regional offices to satellite or contact points would hinder the ability of our service officers and other representatives to research and present a claim at that level since the claim file would not be available, would restrict the claimant's access to a full and fair hearing since a veteran who would readily travel a relatively short distance to appear before a board in his or her state, might well be unable to travel half the distance of our country to make a personal appearance for any number of reasons and the adjudication of claims and the initial payment of benefits to which the claimant is entitled would be greatly impeded.

On March 31, 1981, representatives of the Veterans of Foreign Wars, Disabled American Veterans and the American Legion met in the White House with Edwin Meese, III, Counselor to the President, to discuss the Administration's proposed budget reductions for the Veterans Administration. The enclosed letter enumerating our concerns and signed by the National Commanders of the three veterans' organizations was left with Mr. Meese.

Mr. Chairman, the Senate Veterans' Affairs Committee in its report to the Budget Committee accepted the full $831 million cut in outlays in the VA budget as proposed in the Administration's March 10 mark of the budget. However, that Committee did shift funding for various sub-functions to accomodate the most cricital health-care needs and to retain 58 fully functional VA regional offices. Quite frankly, Mr. Chairman, we were disappointed in the Committee's action in this instance since, for the first time, the Committee permitted partisan politics to dictate its position. This is made abundantly clear in Senate Committee Print No. 5, 97th Congress, 1st Session. Furthermore, the Senate Veterans' Affairs Committee had not held any hearings with respect to the Budget and there was not, and there still is not, a Reagan-appointed Administrator of Veterans Affairs to counter or challenge the proposed cuts in the budget. Notwithstanding, and as the result of behind the scenes negotiations and grassroots lobbying, when S. Con. Res. 19 went to the floor and was passed by the Senate, $250 million in outlays of the proposed cuts had been restored. As is now history, the Reagan Bipartisan Budget Resolution, supported by the V.F.W., restoring $400 million in outlays to the Veterans Administration budget for a total of $24.05 billion for fiscal year 1982 was agreed to by Senate and House conferees on May 14, 1981.

The overriding concerns of the V.F.W., Mr. Chairman, are that the Veterans Administration hospital and medical care system be properly funded and staffed so that all veterans in need of care will be properly treated and not turned away as they often are now, that the Veterans Administration Department of Veterans Benefits be fully funded and staffed to retain 58 fully functional regional offices, as they are today, and that the integrity of the compensation and pension programs be maintained.

With $600 million in budget authority and $400 million in outlays restored to the budget by Congress, over 5,000 medical personnel and 1,764 positions in the Department of Veterans Benefits will be restored. Therefore, 1.7 million outpatient visits will not be cut, the outreach centers for Vietnam veterans will be retained, the 58 VA regional offices will not have to be closed and restorations in other areas can be effected. Also, and directly related to medical care, the special pay authorized for VA physicians and dentists under the provisions of Public Law 96-330 will not have to be capped at 12 percent of the total funding appropriated as envisioned in the Administration's March 10th mark of the budget. You will recall that the enacting legislation for this law, the thrust of which is to recruit and retain high caliber, full-time VA health-care personnel, was vetoed by the President and four days later the Senate passed the legislation overriding the President's veto by a roll call vote of 85 to 0.

While speaking of Public Law 96-330, no funding is included in the budget for the health professionals scholarship program, a most important provision of the law. As you may be aware, 300 hospital beds have been closed due specifically to the shortage of registered nurses. Therefore, we strongly recommend that $5 million for nurses and $7 million for physicians and dentists be included in the appropriation for implementation of this badly needed scholarship program.

It is regretted that the construction of the Baltimore VA hospital has been canceled and the facility at Camden, New Jersey, which was to have been a model geriatric care center, has been canceled since both were fully justified and approved by prior Administrations. It is hoped that funding can be made available for these facilities and, if not, that they be deferred rather than canceled.

Mr. Chairman, funding for State Approving Agencies as authorized by subchapter I, chapter 36, Title 38 USC has been reduced from $17 million to $8.1 million by pending budgets. As you are no doubt aware, State Approving Agencies have performed a very valuable function and uncovered fraud and abuse in educational programs administered by the Veterans Administration saving that agency millions of dollars. It is my understanding that if $6 million is restored for this purpose, State Approving Agencies will be able to function at the level they have in the past due to diminished enrollments in educational programs. Our current Resolution No. 648, entitled "Oppose Funding Cuts of State Approving Agencies and On-the-Job-Training," opposes drastic and disproportionate cuts in this area and, therefore, the V.F.W. recommends funding in the amount of $14 million for State Approving Agencies be approved by this Subcommittee.

Although the necessary funding and personnel have been restored to keep the 58 VA regional offices fully functional, this matter has not been laid to rest. The following quote from Senate Committee Print No. 5, 97th Congress, First Session reflects the Administration's intent: "It should be noted that the Committee rejects the Administration's proposal to save $46.4 million in 1982 by a centralization of certain benefit services. The Committee does endorse centralization as a savings concept but does not believe that such centralization and any corresponding savings can be realized until fiscal year 1986. Indeed, it is the Committee's desire to have the Veterans' Administration prepare a benefit services centralization plan for this Committee's review before fiscal year 1982. Such a plan would effect centralization of specific benefit services into one or more locations by the end of fiscal year 1985 and would incorporate the necessary features to take advantage of full implementation of the TARGET Computer System." We have been assured by the Administration that this matter will be given further study for reducing all but one or three of the regional offices to near contact offices would do violence to the claims system for veterans, their dependents and survivors.

The following resolutions pertinent to the Veterans Administration budget are appended to my testimony:

Resolution No. 609 -- "Veterans Administration Budget"
Resolution No. 611 -- "Government Reorganization"
Resolution No. 639 -- "Opposing Reduction of Operating Staff and Funds for VA Hospitals and Outpatient Treatment"

Resolution No. 648 -- "Oppose Funding Cuts of State Approving Agencies and On-The-Job-Training"

Resolution No. 683 -- "Support Continued Funding for Beneficiary Travel"

Resolution No. 697 -- "Oppose Curtailment or Elimination of Earned Veteran Benefits and Privileges"

Resolution No. 714 -- "Vietnam Era Veteran Psychological Readjustment -- Health Care"

Mr. Chairman, the V.F.W. appreciates the task facing this Subcommittee each year which may be even more difficult this year. You have, in the past, demonstrated both fairness and compassion with respect to funding for the Veterans Administration and more than this we do not ask.

This concludes my testimony, Mr. Chairman, and I will be happy to respond to any questions you may have.

ANALYSIS WORKSHEET

DATE 4-13-81

STATION NAME	STATION NUMBER	FTE FY 81 TO 2/28/81*	FTE ALLOWANCE FY 1982	REDUCTION 2/28/81 TO FY 1982	OUT STAT. L.G. PERS. 4/3/81	OUT STAT. VSD PERS. 4/3/81	OUT STAT. VR&C PERS. 4/3/81
EASTERN REGION							
ATLANTA	16	350	327	23	0	4	1
BALTIMORE	13	183	155	28	0	2	0
BOSTON	01	276	240	36	0	10	0
BUFFALO	07	233	204	29	0	17	3
COLUMBIA	19	229	204	25	0	7	0
HARTFORD	08	133	119	14	0	7	1
HUNTINGTON	15	142	120	22	0	5	0
MANCHESTER	73	82	73	9	0	1	0
NEWARK	09	341	295	46	0	9	1
NEW YORK	06	620	550	70	1	32	1
PHILADELPHIA	10	1,039	890	149	0	11	3
PITTSBURGH	11	235	193	42	0	7	2
PROVIDENCE	04	107	89	18	0	1	0
ROANOKE	14	263	250	13	1	14	3
SAN JUAN	55	213	206	7	0	0	0
ST. PETERSBURG	17	740	659	81	169	31	15
TOGUS	02	116	102	14	0	4	2
WASHINGTON	72	318	276	42	0	7	0
WHITE RIVER JCT.	05	60	57	3	0	0	0
WILMINGTON	60	64	58	6	0	1	0
WINSTON-SALEM	18	345	322	23	0	10	0
	TOTAL	6,089	5,389	700	171	180	32
CENTRAL REGION							
CHICAGO	28	506	450	56	0	17	1
CLEVELAND	25	667	602	65	0	34	16
DES MOINES	33	135	122	13	0	5	0
DETROIT	29	441	393	48	0	17	4
FARGO	37	68	67	1	0	0	0
INDIANAPOLIS	26	272	240	32	0	7	0
JACKSON	23	195	175	20	0	5	0
LINCOLN	34	107	103	4	0	2	0
LITTLE ROCK	50	198	174	24	0	5	0
LOUISVILLE	27	199	180	19	0	2	0
MILWAUKEE	30	237	213	24	0	11	3
MONTGOMERY	22	284	254	30	0	9	6
MUSKOGEE	51	260	216	44	7	11	6
NASHVILLE	20	264	236	28	0	13	4
NEW ORLEANS	21	241	217	24	3	8	3
SIOUX FALLS	38	74	71	3	0	3	0
ST. LOUIS	31	308	276	32	2	13	1
ST. LOUIS-PPC	75	94	84	10	0	0	0
ST. PAUL	35	723	694	29	0	2	0
WICHITA	52	172	155	17	0	4	1
	TOTAL	5,445	4,922	523	12	168	45
WESTERN REGION							
ALBUQUERQUE	40	113	101	12	0	1	0
ANCHORAGE	63	39	39	0	0	2	0
BOISE	47	80	72	8	0	0	0
CHEYENNE	42	40	40	0	0	1	0
DENVER	39	302	256	46	6	3	2
FT. HARRISON	36	90	81	9	0	1	0
HONOLULU	59	85	81	4	0	1	0
HOUSTON	62	482	431	51	35	25	8
LOS ANGELES	44	787	720	67	9	21	0
MANILA	58	147	132	15	0	0	0
PHOENIX	45	233	204	29	0	6	2
PORTLAND	48	186	169	17	0	4	1
RENO	54	60	59	1	0	3	2
SALT LAKE CITY	41	100	90	10	0	1	0
SAN DIEGO	77	189	180	9	0	3	0
SAN FRANCISCO	43	549	493	56	1	17	3
SEATTLE	46	288	256	32	0	5	0
WACO	49	469	428	41	29	27	14
	TOTAL	4,239	3,832	407	80	121	32
	GRAND TOTAL	15,773	14,143	1,630	263	469	109

VA FORM JAN 1980 20-8587 EXISTING STOCKS OF VA FORM 20-8587, SEP 1977 WILL BE USED.

* Rounded to Nearest Whole Number

Joint Statement of The National Commanders of The American Legion, Veterans of Foreign Wars, and Disabled American Veterans

Following is a joint statement by the National Commanders of The American Legion, Veterans of Foreign Wars and Disabled American Veterans.

These are points the organizations would like you to consider in projecting funding for veterans programs. OMB actions contradict the following statements.

At the VFW National Convention in August 1980, Candidate Reagan said: "---to me it is unconscionable that veterans in need are denied hospital and medical care because of inadequate funding which has closed hospital beds and cut health-care personnel within the VA."

The 1980 Republican Party Platform states: "In particular we feel it is of vital importance to continue and expand the health-programs provided to veterans through the Veterans Administration hospitals. Here we see the need for increased access to care especially for older veterans.

In the face of these public statements of policy by the President and his Party, these are the things that have happened since he took office.

In a document presented to the staffs of the Committees on Veterans Affairs, the OMB Director wrote: "In addition, the existence of excess medical care capacity in many areas of the United States makes questionable the need for a separate VA medical system. This Administration will conduct a complete review of alternative methods for providing readily available, quality medical care for eligible veterans."

In an appearance before the Senate Budget Committee, the OMB Director said that the Reagan Administration is preparing --- proposals to effect a more efficient system of veterans health services.

The Administration proposes $1.3 billion in reductions in VA programs for FY 1981 and 1982. The major areas of impact of these reductions will be the medical care program and the regional offices, both of which are the main points of contact between veterans and VA.

OMB defends the reductions as being less than 3.2% of the total VA budget. However that includes entitlement programs which comprise 64% of the VA Budget and are fixed costs. The reductions comprise about 10% of the adjustable funds - some 36% of the total VA Budget.

Medical care reductions will, by VA projections

Cause reduction of 933 nurses, 297 doctors and more than 4,000 medical support personnel

Cause closing 1,800 beds in 60 hospital wards, equivalent to four hospitals

Result in a decrease of 1,583,000 outpatient visits and 3,628 nursing care patients

Terminate the Readjustment Counseling Program for Vietnam veterans

Reduce VA doctors' incentive pay (provided by Congress to alleviate a severe recruitment and retention problem)

Decrease rehabilitative and medical research

Reduce vocational rehabilitation counseling for service-connected disabled veterans

Regionalization proposed for VA Regional Offices will eliminate direct service to veterans who are attempting to develop claims for benefits. Regional Offices will be reduced to information and counseling contacts.

In FY 1976 the VA Budget was 5% of the total Federal Budget. In FY 1981 the VA Budget was 3.2% of the total Federal Budget - proving that veterans programs are not expanding.

- During the past ten years the size of the VA hospital system has been reduced by 20,000 beds, 15,000 of those in the last 4 years at a time when the veteran population has been increased by 9.6 million Vietnam Era veterans - and the 12.5 million WW II veteran population has reached an average age of 61 - becoming more subject to catastrophic illnesses.

- Elimination of the Readjustment Counseling Program will terminate the single program established to deal with the special problems of non-readjusted Vietnam veterans.

- The overwhelming majority of veterans in VA hospitals, and who use the clinics, are elderly and poor. They would be public charges in any case.

- The military has indicated it is no longer able to handle any appreciable number of casualties in event of overseas hostilities. It will have to have help from VA. And VA facilities will inevitably deteriorate, both physically and in staff capabilities, under the Administration's planned reductions.

- The veterans organizations are strongly in favor of the most efficient and cost-effective management of veterans programs, and will work positively with the Administration to that effect - if they are invited to do so. In point of fact comprehensive care in VA hospitals costs 10% less than comparable care in private sector hospitals.

- The three major organizations, with their Auxiliaries, represent more than 7 million active citizens - and they speak as much as anyone can for the veteran constituency.

- History shows that veterans will in fact fight to save their hospitals - and, if necessary, will take their case to the people - as they have done before.

- The veterans organizations are convinced the planned funding reductions will severely hurt both medical care and delivery of service to veterans and dependents. The veterans organizations believe economies can be effected, but not in the way they are now projected by OMB.

- The veterans organizations ask that the funding be replaced for medical care, for medical and prosthetic research, for rehabilitation counselling (including the Vietnam Veteran Outreach Centers), and for operation of the Regional Offices.

- The veterans organizations are willing and desirous of meeting with VA and OMB officials to work out plans for economies in management and operation of veterans assistance programs.

- If current OMB policies vis-a-vis veterans health care and regionalization of Regional Offices are pursued into future fiscal years, the VA will be unable to render effective and efficient service to the nation's 30 million veterans, their dependents and survivors.

Resolution No. 609

VETERANS ADMINISTRATION BUDGET

WHEREAS, the Veterans Administration budget has been cut in proportion to the federal budget every year since 1975 when it was 5.1 percent to a programmed 3.4 percent in outlays in the Fiscal Year 1981 budget; and

WHEREAS, as a result, 7,000 hospital beds have been cut under the present Administration and 8,000 health-care personnel were eliminated or scheduled to be eliminated until through our efforts, Congress mandated the restoration of 3,800 of these positions; and

WHEREAS, veterans in need of hospitalization and medical care to which entitled by the law are denied such by the VA and referred to community resources which in many instances means lining up with welfare recipients; and

WHEREAS, compensation increases for those with service-connected disabilities and DIC for their survivors has not kept abreast with inflation; and

WHEREAS, only in this election year has the President recommended a meager 10 percent increase for Vietnam veterans availing themselves of educational benefits under the GI Bill notwithstanding that the Congressional Budget Office opined they needed a 20 percent increase in October, 1979 to catch-up and by October, 1980, would probably need a 30 percent increase; and

WHEREAS, medical programs passed by Congress and signed into law have been underfunded and under-staffed; and

WHEREAS, even though the F.Y. 1981 budget submitted by the President was approximately $750 million short of funding needed to meet the demand for health-care for our veteran population and adequately fund the benefit programs, the President and his Office of Management and Budget cut an additional $321.7 million; now, therefore

BE IT RESOLVED, by the 81st National Convention of the Veterans of Foreign Wars of the United States, that we continue our unabated efforts for an adequate budget that will insure that the health-care needs of our nation's veterans are met and that all other benefit programs are kept abreast with the cost-of-living.

Adopted by the 81st National Convention of the Veterans of Foreign Wars of the United States held in Chicago, Illinois, August 15-21, 1980.

Resolution No. 611

GOVERNMENT REORGANIZATION

WHEREAS, Public Law 95-17, the Reorganization Act of 1977, grants the President of the United States authority to revamp Executive Branch agencies below cabinet level, subject to veto by either House of Congress within 60 days; and

WHEREAS, when the President was Governor of the State of Georgia, he attempted to combine the Georgia State Department of Veterans Service with Human Resources; and

WHEREAS, the Veterans of Foreign Wars has historically opposed the splintering of veterans' benefits and programs by other departments and agencies; now, therefore

BE IT RESOLVED, by the 81st National Convention of the Veterans of Foreign Wars of the United States, that we oppose any proposed Presidential reorganization or other plan which would abolish all, or part of the functions of the Veterans Administration, or its programs; consolidate all, or part, of the Veterans Administration and its programs with any other agency; or, change the name of the Veterans Administration or downgrade the title of the Administrator; or, which would, in any way, dismember the integrity of the programs administered by the Veterans Administration.

Adopted by the 81st National Convention of the Veterans of Foreign Wars of the United States held in Chicago, Illinois, August 15-21, 1980.

Resolution No. 639

OPPOSING REDUCTION OF OPERATING STAFF AND FUNDS FOR VA HOSPITALS AND OUTPATIENT TREATMENT

WHEREAS, the curtailment of funds the past two years has hurt the efficiency of the VA Hospital Service operation; and

WHEREAS, the Administration is again reducing the VA staff and benefits to veterans seeking hospitalization or outpatient care; and

WHEREAS, the veterans with service connected disabilities which were the result of injuries incurred while serving their country have earned the right to this service and are entitled to the best in medical care; now, therefore

BE IT RESOLVED, by the 81st National Convention of the Veterans of Foreign Wars of the United States, that we oppose any reduction in staffing or funding of the Veterans Administration medical care system.

Adopted by the 81st National Convention of the Veterans of Foreign Wars of the United States held in Chicago, Illinois, August 15-21, 1980.

Resolution No. 648

OPPOSE FUNDING CUTS OF STATE APPROVING AGENCIES AND ON-THE-JOB TRAINING

WHEREAS, the Veterans Administration is supporting legislation which would cut state educational approving agency funding by over 50%; and

WHEREAS, that cut in funding represents a disproportionate share of the total budgetary cut of the Veterans Administration; and

WHEREAS, the proposed bill would eliminate funding for State Approving Agencies for apprenticeship and on-the-job training, reversing the policy established by Congress over 35 years ago by eliminating state and local input and giving all approval powers to the Federal government; now, therefore

BE IT RESOLVED, by the 81st National Convention of the Veterans of Foreign Wars of the United States, that our opposition to such a drastic and disproportionate cut be communicated by letter to the members of the House and Senate Committees on Veterans Affairs in Congress.

Adopted by the 81st National Convention of the Veterans of Foreign Wars of the United States held in Chicago, Illinois, August 15-21, 1980.

Resolution No. 683

SUPPORT CONTINUED FUNDING FOR BENEFICIARY TRAVEL

WHEREAS, the office of Management and Budget recently attempted to eliminate beneficiary travel by witholding funds; and

WHEREAS, such a move would work a severe hardship on veterans living in more remote areas far distant from VA Hospitals and Outpatient Clinics; now, therefore

BE IT RESOLVED, by the 81st National Convention of the Veterans of Foreign Wars of the United States, that we vigorously support continued funding for beneficiary travel for all eligible veterans.

Adopted by the 81st National Convention of the Veterans of Foreign Wars of the United States held in Chicago, Illinois, August 15-21, 1980.

Resolution No. 697

OPPOSE CURTAILMENT OR ELIMINATION OF EARNED VETERAN BENEFITS AND PRIVILEGES

WHEREAS, there is a growing trend toward reduction of the earned benefits and entitlements of veterans, their spouses, dependents and survivors which were explicitly promised or provided by law or regulation in recognition of the hardships and dangers of service life; and

WHEREAS, the erosion of the earned benefits and entitlements are detrimental to the morale of veterans, active, reserve and retired; and

WHEREAS, the continued erosion and reduction of earned benefits and entitlements will adversely affect maintaining an effective and efficient military force needed for the security of the United States; now, therefore

BE IT RESOLVED, by the 81st National Convention of the Veterans of Foreign Wars of the United States, that we oppose all efforts by any individual, group, organization, government office, bureau or agency, or the United States Congress, to discriminate against a veteran, discharged under honorable conditions, or to eliminate or curtail in any manner their earned benefits or privileges.

Adopted by the 81st National Convention of the Veterans of Foreign Wars of the United States held in Chicago, Illinois, August 15-21, 1980.

Resolution No. 714

VIETNAM ERA VETERAN PSYCHOLOGICAL READJUSTMENT - HEALTH CARE

WHEREAS, with the continued deterioration of the V.A. Medical System and cut-backs in Health Care personnel; and

WHEREAS, with the growing need for Vietnam Era Veterans to be treated for service-connected disabilities, chemical dependency, psychological disorders and exposure to the herbicide 'Agent Orange'; and

WHEREAS, not only Vietnam Era Veterans, but all Veterans are not receiving the medical and psychological care they deserve and are entitled to receive because of budgetary cut-backs; now, therefore

BE IT RESOLVED, by the 81st National Convention of the Veterans of Foreign Wars of the United States, that we continue to support the V.A. Medical System and work to strengthen medical and psychological care in the areas of Chemical Dependency, 'Agent Orange' and Psychological Adjustment; and

BE IT FURTHER RESOLVED, that the V.F.W. encourage recruitment of Qualified Vietnam Era Veteran Medical Doctors and Psychologists whenever positions occur in the V.A. Health Care delivery system; and

BE IT FURTHER RESOLVED, that the V.F.W. continue to support outreach programs such as the Vets Center and 'Agent Orange' on behalf of Vietnam Era Veterans.

Adopted by the 81st National Convention of the Veterans of Foreign Wars of the United States held in Chicago, Illinois, August 15-21, 1980.

STATEMENT OF PAUL L. THOMPSON, PAST DEPARTMENT COMMANDER, DISABLED AMERICAN VETERANS, DEPARTMENT OF MARYLAND

Ms. FISHER. Next I would like to welcome Paul Thompson.

Mr. THOMPSON. Thank you, Madam Chairman.

My name is Paul Thompson and I am here today as past department commander of Disabled American Veterans, in the State of Maryland, and also I am a past national commander of the Disabled American Veterans.

On behalf of the over 50,000 disabled veterans in the State of Maryland, who during the course of their active military service, have incurred a wound, an injury, or disease which is compensable in degree, particularly the more than 12,000 of these comprising the membership of the Department of Maryland Disabled Veterans, may I say that we appreciate this opportunity to appear here today.

OPPOSE OMB POSITION ON BALTIMORE HOSPITAL

At the outset, let me state quite clearly that we, as wartime, service-connected disabled veterans, adamantly oppose the recent proposal of the Office of Management and Budget to eliminate the construction of the Baltimore Veterans Administration hospital from the 1982 fiscal year budget.

In my travel around the Nation, such things as happened in Baltimore, where the public sector can come in and dictate where a VA hospital will be built, to me is the beginning of the demise of the VA medical system. This is something I don't feel we as veterans of this Nation can afford.

The cancellation of the construction of this much-needed hospital is not justified. We, as do all Americans, agree that inflation and the cost of Government must be reduced, but we, as Americans who have sacrified a bit more than others, do not see the cancellation of the Baltimore hospital as helping either of these problems.

We would appreciate it very much if the members of this committee and the entire Congress would consider the following facts:

First, cost of new hospital compared to expansion and modernization of existing facilities. The cost of a 400-acute bed replacement VA hospital was estimated in 1979 to be $87 million, compared to $121 million to extend and modernize Loch Raven VA Hospital in Baltimore.

Second, reduction of acute medical-surgical beds. Construction of the proposed VA hospital, while increasing the total bed capacity in Maryland VA hospitals by a total of 17 beds, actually reduces the total acute medical-surgical beds by 87—from 507 to 420. There is a realinement of beds with an increase in the extended care, rehabilitation, and nursing-home-type beds from 569 to 800, in keeping with the needs of an aging veteran population. By 1985, 50 percent of the veterans in Maryland will be over age 60.

Third, medical care less costly in VA hospitals. In 1979–80, the cost of patient care to Loch Raven VA Hospital in Baltimore was about $70 per day less than that at the average community hospital. The cost-per-day at Loch Raven VA Hospital also included the cost of physicians' services, making the cost of medical care needs cheaper at the VA hospital.

Fourth, facilities sharing to reduce costs. The replacement hospital was planned to share many key services with the University of Maryland Hospital—CAT scanning, radiation therapy, renal dialysis, cardiac surgery, special laboratory procedures, autopsy facilities, and emergency room services. Sharing of these services further decreases the cost of medical care to the veterans in this area.

Fifth, improved coordination of medical care. There are additional considerations which are important. These include the fact that the replacement hospital would contain outpatient facilities in which to coordinate the almost 200,000 outpatient visits made annually to four areas in Maryland. At this time, most of veteran outpatients receive their medical care at the VA outpatient facilities in the Federal building in downtown Baltimore, and are sent to Loch Raven VA Hospital for hospitalization.

With the proposed VA hospital, outpatient and inpatient care will be rendered in the same area by the same physicians. Seventy-one percent of the veterans hospitalized at Loch Raven Veterans Administration Hospital have either no insurance or their medical insurance has been exhausted prior to admission, with over 100 veterans being "dumped" yearly on the VA hospital by community hospitals after the veteran's medical insurance has been exhausted. This is not only in Baltimore; this is around the Nation.

(6) Improved location.—There are eight major bus lines to and from all areas of metropolitan Baltimore that pass immediately adjacent to or within one block of this proposed VA hospital, making it easily accessible to all populations. Likewise, a new major subway station will be about two blocks away.

SCHOOL ENROLLMENT PREDICATED ON CONSTRUCTION

Mr. Chairman, of utmost importance to the University of Maryland and the University of Maryland School of Medicine is the fact that the medical school class was expanded 5 years ago by 25 students in each entering class, predicated by the anticipated construction of the replacement veterans hospital immediately adjacent to the University of Maryland Hospital and its availability to the school for educational purposes.

Likewise, the University of Maryland has invested over $7 million in parking facilities to replace the parking garage and land made available to the Veterans Administration. This expenditure of $7 million would not have been undertaken had the replacement hospital not been planned.

As mentioned earlier, there hasn't been any improvements or any upgrading on three hospitals in the Baltimore area in the past 10 years due to the fact that all the funds were, at that time, to go on construction of this replacement hospital.

So this is the reason why it would cost much, much more to revitalize or renovate these old hospitals in order to bring them up to the safety codes that are necessary. So it would be much cheaper to build a new hospital than try to bring these others up to the standards.

A total of $87 million will not be saved by deleting the replacement hospital from the budget since the existing VA hospitals in the Maryland area must be expanded, modernized, and have life-safety codes corrected at the cost of several million dollars if they are to continue operation. No money has been spent on these existing facilities for modernization or correction of life-safety code violations for the past 8 or 10 years in anticipation of the replacement hospital.

A comparison of the study of Veterans Administration facilities for comparable veteran population—for example, Georgia, North Carolina, Virginia, Tennessee, and Maryland—shows that the VA expenditures for hospital care in Maryland has been far below expenditures in other States.

Georgia, 1975, $70.7 million; 1976, $85.1 million; 1977, $101 million; 1978, $120 million; and 1979, $138 million.

North Carolina, 1975, $78.6 million; 1976, $91.6 million; 1977, $98.6 million; 1978, $116 million; and 1979, $126 million.

Virginia, 1975, $83.2 million; 1976, $91.3 million; 1977, $108.3 million; 1978, $117 million; and 1979, $126 million.

Tennessee, 1975, $83.2 million; 1976, $91.3 million; 1977, $108.3 million; 1978, $117 million; and 1979, $126 million.

Maryland, 1975, $44.6 million; 1976, $49.7 million; 1977, $56.1 million; 1978, $67 million; and 1979, $72 million.

The lower expenditures in Maryland are partially due to the fact that there has been no modernization and correction of life-safety measures, and partially because all these Maryland Hospitals are dean committee hospitals, where the State's two medical schools—the University of Maryland and Johns Hopkins University—are involved in recruitment of physicians to staff the VA hospitals and supervise the medical care rendered. The latter equates to a shorter length of stay and less cost to the Federal Government.

Mr. Chairman, if the Maryland hospital system is overbedded it is certainly not the fault of the Veterans Administration. If there is overbedding, the excess beds are on the obstetrical and pediatric services, neither of which is provided in Veterans Administration hospitals.

Mr. Chairman, many veterans, rightly or wrongly, see this as the beginning of the end of the VA medical care system which provided outstanding care to millions of this Nation's veterans for over 50 years.

As many of our Nation's leaders have stated many times, the United States must have a strong defense. That takes people, military people, many of whom unfortunately will be returned to society as veterans in need of medical help due to service-related disabilities. Don't jeopardize the strong VA hospital care system established in this country. Strengthening of the military and weakening of the VA hospital system seems quite axiomatic.

I will conclude my statement here this morning, Mr. Chairman, by asking you and the members of this committee to give strong consideration to all of these facts that I have given to you today, as there has been a great deal of planning by the Veterans Administration and by the University of Maryland School of Medicine over the past 10 years toward construction of this facility.

This planning effort has been costly in man-hours and dollars and, unfortunately, all have been negated by this proposed deletion of a replacement hospital.

Again, thank you very much for affording me the opportunity to appear here today.

Ms. FISHER. I think everyone who has testified on behalf of the Baltimore hospital and the other issues concerning the Veterans Administration have made some very important points. As I stated earlier, the VA is currently working on its repriority list for the hospital construction program. While the House and Senate agreed to rescind funds for the Baltimore hospital, that doesn't necessarily mean that future funding for the hospital is impossible.

We don't know what hospitals are going to be on this list. However, there is a chance that the Baltimore hospital could be on this list. We had a meeting last week with officials from the VA and outlined different items that we thought the VA should be looking at when preparing this list.

I think everyone is going to be very interested in examining this list. We certainly hope that this list will help the subcommittee in making decisions concerning the hospital construction program in the future.

Is there anything else that you would like to add concerning the proposed budget reductions in the VA and the impact of those reductions on the veterans?

VIETNAM VETERANS OUTREACH CENTERS

Mr. THOMPSON. As a member of the Disabled American Veterans, some of our top priorities would be, naturally, the medical systems, MNS, and we feel the compensation—the Congress has been just to us in that area. I was very glad to see they reconsidered the funding of the Vietnam veterans outreach centers because the VA really came to the forefront of this program. We found it has been a very successful program. It would have been a waste of money, manpower and everything else to let this program go down the drain because it was just beginning to reach its potential.

I would think the Congress was very smart in their deliberations in continuing to fund this program. But I think that we will be able to provide some of the things with what they have given us. Our No. 1 priority still remains the D.M. & S. as far as the disabled veterans are concerned.

Ms. FISHER. How many outreach centers are there in the Washington metropolitan area?

Mr. THOMPSON; The VA has one.

Ms. FISHER. Is that located in Washington?

Mr. THOMPSON. Yes.

Ms. FISHER. How many veterans does it serve?

Mr. THOMPSON. Overall, there have been approximately 100,000 veterans that have been served in these outreach centers around the Nation.

Ms. FISHER. Thank you very much.

I apologize that Senator Garn has not been able to return from the conference committee on the supplemental/rescission bill. I am very anxious, as are some of you, to find out what has been resolved.

NATIONAL SCIENCE FOUNDATION

STATEMENT OF ARTHUR C. GENTILE, EXECUTIVE DIRECTOR, AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES

Ms. FISHER. Our last witness for today is Dr. Arthur Gentile.

Mr. GENTILE. Thank you.

I am grateful for the opportunity to appear at this hearing to present the views of the American Institute of Biological Sciences of the National Science Foundation.

We are disturbed by the absence of recommended funding in the executive budget for two very important programs. These are a special program for modernization of research equipment and facilities and science education.

Since we have presented a document to you which at some length goes into our reasoning, I shall be brief and assume that our statement will be included in the record.

Ms. FISHER. Your entire statement will be included in the record at the conclusion of your oral testimony.

STATEMENT HIGHLIGHTS

Mr. GENTILE. In the United States, most basic research is conducted in university laboratories. Modern research is highly specialized and sophisticated and requires equally sophisticated and expensive instrumentation.

Over the last 15 years, funds for instrumentation have been severely curtailed and today, university laboratories fare poorly in comparison to their counterparts in Government and industry. The deterioration of university instrumentation is threatening the capacity of even the best institutions to conduct research and provide quality training.

The costs for the acquisition, operation, and maintenance of modern research instruments now exceed the capacity of institutional funds to meet them. Since 1970, the average cost of five basic, important scientific instruments has risen at an annual rate of 20 percent through 1978, far exceeding the average inflation rate. At the same time, funds available for the purchase of these instruments by universities have decreased.

The lack of state-of-the art instrumentation and attempted use of obsolete, frequently malfunctioning instruments are bound to impede research efforts. In addition to instrumentation needs, research programs cannot operate at full capacity without adequate facilities, such as laboratories, animal facilities, and greenhouses. Many of these facilities were built when universities were expanding during the 1950's and 1960's and are becoming old, while replacement and renovation funds are difficult to obtain from other sources.

In recognition of the responsibility of the NSF to ameliorate these conditions as part of its mission to support basic research, the Senate Committee on Labor and Human Resources has authorized $14.5 million which may be used for this special program. We urge you to appropriate this amount to meet a dire need of the research community.

SCIENCE EDUCATION

Our other concern is science education because the major scientific and technological resource of any nation is its trained manpower.

With shortages of trained scientists already being experienced in some fields by universities and industry, with the prospect that these shortages will include additional fields in this decade, and with the need for more and better science education to ameliorate this situation, it is vital that the NSF continue its mandate to support education in science.

In a joint report to the President, the NSF and the Department of Education warn that the United States is moving toward virtual scientific and technological illiteracy in the population at large.

Similar views have been expressed in independent studies conducted by the Science Education Center of the University of Iowa and the Southern Regional Education Board.

In view of our need for more and better science education, it is inconceivable that the Federal support for science education in the 1982 executive budget has been virtually eliminated. It is apparent that we shall face increasing difficulties in securing highly trained minds for the professional disciplines in the future unless we strength-en, rather than abandon, our efforts to improve science education at all levels.

The minimum goals of our efforts in science education should be to:

First, stimulate interest in science careers at the precollege and college levels, particularly among women and minorities who are strikingly underrepresented in the scientific fields. Today, only about one-third of the Nation's high schools require more than 1 year of mathematics or science for graduation. Colleges and universities have reduced the number of these subjects they require for admission. If students take no science or mathematics after their 10th school year, they have effectively eliminated science as a career.

Second, improve the teaching of science by providing opportunities for teachers at the secondary school and college levels to keep up to date in their knowledge of science. This goal can be accomplished by supporting conferences and short courses and giving teachers the opportunity to return periodically to colleges and universities for additional study. It should be apparent that in a short period of time a teacher who has been out of school must return for some sort of update on his or her education if he or she is to be an effective science teacher.

PUBLIC UNDERSTANDING OF SCIENCE

Finally, the program must promote public understanding of science. Indeed, the increase in the number of popular science magazines and the success of television science programs indicate that the public is not only supportive of science education, but thirsty for a knowledge of science. If the public is being asked to support science and all of its ramifications, it should be provided an opportunity to learn what science is doing, how it is being done, and why.

To the average American, science has become too arcane, and this condition must be remedied if we are to expect popular support for scientific endeavors.

We believe the Senate Committee on Labor and Human Resources acted wisely in authorizing $20.4 million for science and engineering education. We urge you to add your endorsement to this important program by appropriating the authorized amount.

It is our opinion that the conduct of basic research, the need for modern laboratory equipment and facilities, and the education of future scientists are inextricably intertwined. We need young people being educated to carry on the marvelous work of our current researchers in order to insure the continuation of the kinds of developments that have made life easier and more productive for millions of people.

We also need adequate funding for research and the best available equipment and facilities in order to continue the major advancements we have come to expect from American scientists as they strive to maintain and enhance our position of leadership in the world today.

I would be glad to answer any questions you may have.

Mr. FISHER. Thank you very much, Dr. Gentile. I think there is no question that the National Science Foundation, through many of its programs, has provided opportunities, that would not have been possible without NFS support, to various students within universities and colleges. Also, too, I think the work that the National Science Foundation does has helped to promote science in this country. Obviously, these are some of the items which the subcommittee will be examining during consideration of the fiscal year 1982 appropriations bill.

What will be the impact on colleges and universities if the administration's fiscal year 1982 proposal for the instrumentation program is accepted?

Mr. GENTILE. The current fiscal year 1982 proposal eliminates this program; that is, the President's budget. Of course, both the House and the Senate committees that have acted on it so far have restored some of the money. This is a need which exists now. It is not something that is coming in the future because most universities, in particular public universities, were able to purchase large amount of equipment during the fifties and sixties when they were expanding. Now that they are no longer expanding, new buildings not being constructed, many of them, in fact, most of them, are using the antequated equipment that they purchased 10 to 20 years ago. So I think this is a very, very important matter at this point in time.

Senator GARN [presiding]. Please continue.

Mr. GENTILE. I was answering a question.

Senator GARN. I am glad I was able to make it back for the last witness. I have been apologizing all afternoon for having to run in and out of these hearings.

Mr. GENTILE. That is quite all right.

Senator GARN. We finally did finish the HUD section of the supplemental/rescission bill.

Do you have any more questions?

Ms. FISHER. I have no more questions.

Senator GARN. Thank you for appearing before the subcommittee. Your prepared statement, I understand, has been submitted to the staff and, without objection, will appear in the printed record at this point.

[The statement follows:]

STATEMENT OF DR. ARTHUR C. GENTILE, EXECUTIVE DIRECTOR, AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES

I am grateful for the opportunity to appear before this committee as the spokesman for the American Institute of Bilogical Sciences. The Institute is a consortium of forty professional societies with an aggregate membership of approximately 100,000 biological scientists. Since the great majority of our societies' members are at universities and colleges and are engaged in basic research and since the National Science Foundation is the major source of support for this research, we have a long-standing and continued interest in all legislation which impacts upon the Foundation.

The Reagan administration has voiced support for continuing our national efforts in research and development and, for the two divisions of the NSF which provide most of the support for research in the biological sciences, the executive budget for FY 1982 provides for an increase of approximately 6.5% over the revised spending levels for 1981. We find these proposed increases in a period of austerity most gratifying and urge this committee to maintain them.

However, we are disturbed by the absence of recommended funding in the executive budget for two very important programs. These are a special program for modernization of research equipment and facilities and science education.

In the U. S., most basic research is conducted in university laboratories. Modern research is highly specialized and sophisticated and requires equally sophisticated and expensive instrumentation. Over the last fifteen years, funds for instrumentation have been severely curtailed and today, university laboratories fare poorly in comparison to their counterparts in government and industry. The deterioration of university instrumentation is threatening the capacity of even the best institutions to conduct research and provide quality training. The costs for the acquisition, operation, and maintenance of modern research instruments now exceed the capacity of institutional funds to meet them. Since 1970, the average cost of five basic, important scientific instruments has risen at an annual rate of 20% through 1978, far exceeding the average inflation rate. At the same time, funds available for the purchase of these instruments by universities have decreased.

The lack of state-of-the art instrumentation and attempted use of obsolete, frequently malfunctioning instruments are bound to impede research efforts. In addition to instrumentation needs, research programs cannot operate at full capacity without adequate facilities, such as laboratories, animal facilities, and greenhouses. Many of these facilities were built when universities were expanding during the 1950's and 1960's and are becoming old, while replacement and renovation funds are difficult to obtain from other sources. In recognition of the responsibility of the NSF to ameliorate these conditions as part of its mission to support basic research, the Senate Committee on Labor and Human Resources has authorized $14.5 million which may be used for this special program. We urge you to appropriate this amount to meet a dire need of the research community.

Our other concern is science education because the major scientific and technological resource of any nation is its trained manpower. With shortages of trained scientists already being experienced in some fields by universities and industry, with the prospect that these shortages will include additional fields in this decade, and with the apparent need for more and better science education to ameliorate this situation, it is vital that the NSF continue its mandate to support education in science.

In a joint report to the President, the NSF and the Department of Education warn that the U. S. is moving toward "virtual scientific and technological illiteracy" in the population at large. Similar views have been expressed in independent studies conducted by the Science Education Center of the University of Iowa and the Southern Regional Education Board.

In view of our need for more and better science education, it is inconceivable that the federal support for science education in the 1982 executive budget has been virtually eliminated. It is apparent that we shall face increasing difficulties in securing talented and highly trained minds for the professional disciplines in the future unless we strengthen rather than abandon our efforts to improve science education at all levels. The minimum goals of our efforts in science education should be to:

(1) Stimulate interest in science careers at the precollege and college levels, particularly among women and minorities who are strikingly underrepresented in the scientific fields.

Today, only about one-third of the nation's high schools require more than one year of mathematics or science for graduation. Colleges and universities have reduced the number of these subjects they require for admission. If students take no science or mathematics after their tenth school year, they have effectively eliminated science as a career.

(2) Improve the teaching of science by providing opportunities for teachers at the secondary school and college levels to keep up to date in their knowledge of science. This goal can be accomplished by supporting conferences and short-courses and giving teachers the opportunity to return periodically to colleges and universities for additional study.

(3) Promote public understanding of science. Indeed, the increase in the number of popular science magazines and the success of television science programs indicate that the public is not only supportive of science education but thirsty for a knowledge of science. If the public is being asked to support science and all its ramifications, it should be provided an opportunity to learn what science is doing, how it is being done, and why. To the average American, science has become too arcane, and this condition must be remedied if we are to expect popular support for scientific endeavors.

We believe the Senate Committee on Labor and Human Resources acted wisely in authorizing $20.4 million for science and engineering education. We urge you to add your endorsement to this important program by appropriating the authorized amount.

It is our opinion that the conduct of basic research, the need for modern laboratory equipment and facilities and the education of future scientists are inextricably intertwined. We need young people being educated to carry on the marvelous work of our current researchers in order to insure the continuation of the kinds of developments that have made life easier and more productive for millions of people. We also need adequate funding for research and the best available equipment and facilities in order to continue the major advancements we have come to expect from American scientists as they strive to maintain and enhance our position of leadership in the world today.

SUBCOMMITTEE RECESS

Senator GARN. We will recess the committee until 9:30 tomorrow morning.

[Whereupon, at 4:10 p.m. Tuesday, June 2, the committee was recessed to reconvene at 9:30 a.m. Wednesday, June 3.]

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT-INDEPENDENT AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1982

WEDNESDAY, JUNE 3, 1981

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 9:35 a.m. in room 1224, Everett McKinley Dirksen Senate Office Building, Hon. Jake Garn (chairman) presiding.

Present: Senators Garn, Weicker, D'Amato, and Huddleston.

NONDEPARTMENTAL WITNESSES

NATIONAL SCIENCE FOUNDATION

STATEMENT OF JOHN C. WRIGHT, PRESIDENT, UNIVERSITY OF ALABAMA IN HUNTSVILLE, AMERICAN ASSOCIATION OF STATE COLLEGES AND UNIVERSITIES

Senator GARN. The subcommittee will come to order.

There will be no speeches by the Chair this morning. We have 35 public witnesses today, so I am going to be very quiet and ask that the first witness, Dr. John C. Wright, president of the University of Alabama in Huntsville, representing the American Association of State Colleges and Universities, present his testimony.

Mr. WRIGHT. My name is John C. Wright. I am president of the University of Alabama in Huntsville. I am a chemist by training at the University of Illinois and a former member of the staff of the National Science Foundation.

I am pleased to have the opportunity to appear here today to testify on the fiscal year 1982 National Science Foundation appropriations bill, with particular emphasis on the science and engineering education directorate.

BROAD CROSS-SECTION REPRESENTED

I do represent 341 member institutions of the American Association of State Colleges and Universities and am presently vice chairman of the Commission on Science and Technology. I also represent today a total of 13 institutions. I will not go into the specific listing, but they do represent a broad cross-section of higher education in America, institutions that include, for example, the Weber State College in Utah.

Senator GARN. You are obviously familiar with the college. In Utah, we call it Weber. I am impressed you know it is Weber College.

Mr. WRIGHT. I studied it once for the National Science Foundation. I also was dean in Flagstaff, Ariz. So I know that area. Thank you.

It is a pleasure to appear before you today in the company of my distinguished colleague from the research universities and from the private undergraduate colleges.

Although we approach the problem from differing perspectives, we are all concerned with the adequacy of science and engineering education in the United States today. The American system of science and engineering education is in a state of crisis which warrants immediate attention and appropriate action. We believe we are at a turning point, and we ask the committee today to support the programs to the fullest extent possible within current budgetary restraints.

In particular, I indicate H.R. 1520, and we request that this committee appropriate the levels which are authorized in that bill. I believe it represents a realistic and a balanced approach to spending within the National Science Foundation.

CONCERN FOR EDUCATIONAL FUNDING

On the other hand, I must admit that I am concerned with the low level of funding for science and engineering education contained in the bills reported out by the Senate Labor and Human Resources Committee and Commerce, Science, and Transportation.

The American system of higher education couples the production of new knowledge with the training of skilled manpower at its universities and colleges. There is a highly complementary relationship between the performance of basic research and the education of future scientists and engineers.

If we, as a nation, do not adequately support the training of our scientists and engineers, then our technological base will erode and our store of scientific knowledge will diminish.

In the past, support for our research and training has been multifaceted and dependent upon Federal, State, private, and institutional sources. This mix helped to assure that the teaching and research occurring at our colleges and universities were responsive to the needs of our Nation as perceived from a broad perspective.

President Reagan is proposing the virtual elimination of Federal support for science and engineering education. How will these programs then continue, because the States are already experiencing budgetary deficits. They will not be able to fill the gap. Institutional resources are strained to the limit. And industry cannot replace all of the functions and dollars that are lost from Government support.

Though limited, the Federal role in science and engineering education is, thus, a crucial one. I can testify to that from my own institution of the University of Alabama in Huntsville where we do obtain support from the Federal Government, from private industry, from State government; but the Federal role is a particularly crucial one.

We believe this commitment seems to be diminishing rather dramatically, and with the current budget requests it is contrary to national needs. This action is being proposed in a time of our history when the U.S. position of world leadership in science and technology is being severely challenged.

WORLD TRADE

Mr. Chairman, our statement lists some areas of concern. I am going to call attention to some of these related to trade.

Manpower shortages in engineering and computer specialists are contributing to the decline in the U.S. share of world trade. Between 1963 and 1977, productivity in the manufacturing industries increased 51 percent in the United Kingdom, 114 percent in West Germany, 197 percent in Japan, but only by 39 percent in the United States.

We believe that in the computer area we are likely to continue to lose our advantage in world trade if we do not take action at the education and research level in universities.

The Department of Defense is another area where they have the same kind of technology needs, and this exacerbates the problem in the world trade area by not having enough scientists and engineers being educated in our universities.

In Japan, the number of degrees actually granted to engineers in recent years has surpassed the number granted in those same years in the United States, though Japan's base population is one-half of ours.

I strongly believe that the National Science Foundation is the agency best able to restore the health of American science education. But to do so, its budget must acknowledge the strong interdependence between science research and science education, and both of these activities must be adequately supported.

As a college president, I am all too familiar with the problems caused by inflation, rising costs, and diminishing support. The economic recovery of our Nation must be the goal for all Americans. But to cut funds for science and engineering education is, I believe, a strategic error. It is like destroying our seed corn at a time when we must think of the future as well as the present.

I would like to point out here that the American Association of State Colleges and Universities, and other groups listed, concur with the statement of Chancellor Melvin Eggers that will be given at 11:10. Specifically, the groups that I represent recommend that the Subcommittee on HUD and Independent Agencies take the following steps:

First, we request that you authorize the science and engineering education directorate of the National Science Foundation to be funded at the $75 million level as proposed in H.R. 1520. At that level, it would be able to fulfill its obligations.

Second, we request that you authorize the entire 1982 science and engineering education budget in three subactivities. We request that you not explicitly require the funding of any existing programs or specify any existing budget levels.

The three areas are mentioned in No. 3: Research and analysis, precollege programs, and higher education programs. These are of a continuous fabric. Education and research is all interrelated, and we request that you fund them all.

In the research and analysis area it provides the data base for which all kinds of decisions of higher education are required.

The precollege programs are important because we must have support for precollege education so students are not precluded from selecting careers. In the absence of adequate program at the precollege level, students will be excluded from future careers in science education.

The higher education programs should be charged with supporting a carefully focused and coordinated set of college/university level activities to improve the quality of science education available to both general students as an intelligent lay public as well as the science and engineering majors.

Mr. Chairman, I would be happy to answer any questions if I can. It is a pleasure to testify before your committee.

Senator GARN. Thank you very much, Doctor. I appreciate your testimony.

PROBLEMS RELATED TO SCHOOL CURRICULUM

I just have one question. Referring back to the problems that you enumerate, I certainly agree with them. Let me just pick on one where you say, "A total of 500,000 American students take calculus during their last year in high school or first year in college while 5 million Soviet students take it as part of their high school curriculum." I don't disagree with that statement. In fact, the same thing is true in many science programs.

The question I would like to ask you is, how do these problems relate to the National Science Foundation? It appears to me that the problems are related to the curriculum established by schools rather than Federal funding. When I went to high school, it was required that students take more science and math than they do today.

I definitely see a softening at the precollege level in science courses. We could provide all the money in the world to schools, but unless a decision is made to require students to take certain courses and do more homework, I don't think we are going to solve the problems relating to science. While I'm not disputing what you are saying, I don't see the direct correlation of the problems with science education to money.

Mr. WRIGHT. There is one factor, and that is there is a very serious shortage of high school mathematics teachers. Most people don't realize that because they think there is an excess of teachers. Indeed, there is, of elementary school teachers.

But, on the other hand, teachers at the high school level that are adequate for the teaching of calculus are just not available in this country.

I think the other thing is, at the time right after Sputnik, when the Nation was much more active in summer programs and Saturday programs, there was a much greater stimulation of high school students to take more rigorous science and mathematics. My understanding is that the proportion of high school students electing calculus at that time was greater.

Senator GARN. My point is simply this. I understand the problem of insuring that there is an adequate supply of teachers to teach science courses. But you still have to have some requirements——

Mr. WRIGHT. Yes, sir.

Senator GARN [continuing]. And schools must initiate strong curriculums for students. That is the point I want to make. While there is no question that money and teachers must be supplied, the problems with science education go beyond these two factors.

Mr. WRIGHT. Yes, sir.

Senator GARN. I am, frankly, not satisfied with the requirements placed on my children today.

Mr. WRIGHT. Yes, sir; and that is a State and a local problem.

Senator GARN. When you look at the educational systems in Europe, you can see the discrepancies in our system. In my opinion, students in Europe are much better qualified than students in this country in reading, writing, and spelling when they finish secondary schools. Thus, the discrepancies between the school systems is simply a matter of a softening of attitudes in the United States and goes far beyond the problems you are talking about. I have six children who are in all levels of school and I am not satisfied with the curriculum in their schools nor do I understand how any of them can do only 15 or 20 minutes worth of homework a night. I wish there was some way we could encourage educators to strengthen our schools' curriculum so that our young people would receive a better education.

Thank you very much for your testimony.

Mr. WRIGHT. Thank you.

[The statement follows:]

STATEMENT OF DR. JOHN C. WRIGHT, PRESIDENT, UNIVERSITY OF ALABAMA IN HUNTSVILLE

My name is John Wright and I am President of the University of Alabama in Huntsville, a position I have held for approximately three years. Prior to assuming the presidency at UAH, I have served as the Chief Academic Officer for the West Virginia Board of Regents and Dean of the College of Arts and Sciences at West Virginia University and at Northern Arizona University. In addition to my administrative roles, I have served on the faculty at West Virginia Wesleyan College, Northern Arizona University, and West Virginia University holding a rank of Professor of Chemistry. I have received a Ph. D. degree in Chemistry from the University of Illinois in 1951 and did post-doctoral work at the University of London in 1962 and at the University of Michigan in 1965. I have also worked as a research scientist for seven years in industry and have been a member of the staff at the National Science Foundation. Presently I am a member of the Army Science Board.

I am pleased to have the opportunity to appear before this subcommittee today to testify on the FY 1982 National Science Foundation Appropriations bill with particular emphasis on the Science and Engineering Education Directorate.

I represent the 341 member institutions of the American Association of State Colleges and Universities, and am currently vice chairman of its Committee on Science and Technology. Today, I also represent the following organizations:

American Council on Education
American Educational Research Association
Associated Colleges of the Midwest
Association for Affiliated College and University Offices
Association of Catholic Colleges and Universities
Association of American Colleges
California State University and Colleges
Council of Graduate Schools in the United States
National Association of Schools and Colleges of the United Methodist Church
National Council for the Social Studies
National Council of Teachers of Mathematics
State University of New York

Our institutions are located throughout the United States and include the following colleges and universities which will be familiar to the members of the subcommittee: Weber State College (UT), University of Nevada-Las Vegas (NV), State University College at Buffalo (NY), Western Kentucky University (KY), nine campuses of the University of Wisconsin system, Tennessee Technological University (TN), Central Connecticut State College (CT), New Mexico Highlands University (NM), Mansfield State College (PA), University of Southern Mississippi (MS), and Lyndon State College (VT).

With a combined enrollment of 2½ million students, the 341 state colleges and universities of AASCU enroll one out of four of all baccalaureate degree students in the country. Our institutions play a major role in our nation's science effort. Many students who ultimately pursue advanced degrees in scientific and technical fields receive their basic undergraduate training at our institutions. A large portion of the nation's future elementary and secondary school science and mathematics teachers are educated at AASCU schools and universities. These teachers must be able to communicate the knowledge and skills that will enable our youth to live in an increasingly complex scientific and technical society.

In engineering AASCU's 106 Schools of Engineering award close to 25% of the B. S. degrees in engineering annually. Our involvement in engineering is a long-standing one -- one of our member institutions, New Jersey Institute of Technology, recently celebrated its centennial. Our involvement is also expanding to meet new needs, and in 1978, one of our members, the University of Northern Iowa, became the first institution to offer a doctoral program in industrial technology.

Mr. Chairman, it gives me great pleasure to appear before you today in the company of my distinguished colleagues from the research universities and from the private undergraduate colleges.

Though we approach the problem from differing perspectives, we are all concerned with the adequacy of science and engineering education in the U. S. today. The American system of science and engineering education is in a state of crisis which warrants immediate attention and appropriate action. We are at a fundamental turning point, a time in which our system will either rise to meet the challenges ahead or will falter and ultimately undermine our nation's security and economic well being.

Today this committee will be making a decision of ultimate importance to the future of American science and engineering education. I urge you to support these programs to the fullest extent possible within current budgetary constraints.

Recently the House Science and Technology Committee reported out H. R. 1520. The levels authorized in that bill, I believe, represent a realistic and balanced approach to spending within the National Science Foundation. I am particularly pleased that the Committee approved funding at $75 million for Science and Engineering Education. The Committee's decision to increase the President's recommendations for the Biological Behavioral and Social Sciences and to include start up funds for instrumentation are also a step in the right direction. On the other hand, I am concerned with the low level of funding for science and engineering education contained in the bills reported out by the Senate Labor and Human Resources Committee and Commerce, Science and Transportation.

I wish to place my testimony in the following context:

-- Our institutions of higher education are a national resource;

-- Federal support of science and engineering education is an investment in America's future scientific and technological strength;

-- This federal support has been steadily declining, and now faces virtual elimination; and

-- Current budgetary decisions must be weighed against their future impact on the American economy, society and nation as a whole.

I would also like to tell this Committee some of the ways in which National Science Foundation funding has benefitted the institutions that are members of AASCU.

The National Investment in Higher Education: 1981, a recently released paper by the American Council for Policy Analysis and Research, stated that "Higher education is one of America's greatest national resources. It educates our citizens, enriches our communities, conducts much of our most important research and contributes countless other benefits. Fulfillment of its mission is indispensable to America's well-being and justifies a major national investment."

A by-product of this educational process is the scientific knowledge vital to our country's well being. In releasing the FY 1982 NSF budget, Dr. John B. Slaughter, its director, said, "Success in achieving virtually all our national goals for the 1980's -- more vigorous economic growth, a stronger competitive position in world markets, enhanced national security, better health and quality of life for all people -- will depend in part on new knowledge which can come only from scientific and engineering research."

The American system of higher education couples the production of new knowledge with the training of skilled manpower at its universities and colleges. Scientific discovery depends upon education and training. There is a highly complementary relationship between the performance of basic research and the education of future scientists and engineers. If we as a nation do not adequately support the training of our scientists and engineers, then our technological base will erode and our store of scientific knowledge will diminish. The elimination of funds for science education may deny U. S. the next generation of creative scientists and innovative engineers.

In the past support for our research and training has been multi-faceted and dependent upon federal, state, private and institutional sources. This mix helped to assure that the teaching and research occurring at our colleges and universities were responsive to the needs of our nation as perceived from a broad perspective.

Now President Reagan is proposing the virtual elimination of federal support for science and engineering education. How will these programs continue? The states are already experiencing budgetary deficits and taxpayer revolts; therefore, they will not be able to fill the gap. Institutional resources are already strained to the limit. And industry cannot replace lost government dollars. As Richard Lyons, Vice President for Petroleum Research at Exxon Research and Engineering Corporation, recently noted industry funding should supplement and complement federal funding since "many national objectives would not attract industry's attention. In my preferred model . . . these funding sources would form a national partnership with public and private sectors, each concentrating in areas of competence while respecting societal roles and responsibilities of the partner."

The experience of one of our members, New Jersey Institute of Technology, is illustrative of the importance to industry of the tripartite arrangement with federal and state funding.

New Jersey Institute of Technology has a large and successful Center for Pre-College Programs. The aim of these programs is to provide disadvantaged students -- many of them from minority groups -- with the technical skills necessary to pursue careers in science and engineering. It is a demanding program, but 92% of the participants successfully complete it and go on to college.

The NSF originally funded support for this program and it served 245 students. With this in operation, the Institute was able to go to the corporate and industrial community for additional support. Now the programs serve 1,000 students. The government seed money stimulated an investment by private industry that was 2½ times the original federal support. I have also worked with the private sector in building programs at my institution and I know that the federal support is the crucial catalyst in building industrial support.

Though limited, the federal role in science and engineering education is, thus, a crucial one. The nature and extent of this support for science and engineering education has changed in response to national needs -- for example, the public alarm resulting from Sputnik saw a surge in funding. Yet this support has been an integral part of the U. S. science and technology policy for the last thirty-five years.

This commitment seems to be diminishing rather dramatically with the Administration's current budget requests and is contrary to national needs. This action is proposed at a time in our history when the United States' position of world leadership in science and technology is being severely challenged. The health of our economy and the strength of our national security are at stake. For example:

-- manpower shortages in engineering and computer specialists are contributing to the decline in the U. S. share of world trade. Between 1963 and 1977 productivity increased in the manufacturing industries of the United Kingdom by 51%, of West Germany by 114%, of Japan by 197%

and of the United States by 39%. During that same time the U. S. share of world trade in manufactured items declined from 21% to 16% while Japan's share increased from 8% to 15%.

-- only one-third of the nation's 17,000 schools districts require graduates to take more than one year of math or science.

-- the Department of Defense reports that it has problems recruiting and retaining civilian and military engineers. It also notes that it is more and more difficult to find officers and NCO's who are qualified to be trained to operate increasingly sophisticated military hardware.

-- a total of 500,000 American students take calculus during their last year in high school or first year in college, while five million Soviet students take it as part of their high school curriculum.

-- in Japan the number of degrees granted to engineers in recent years has surpassed the number granted in those same years in the U. S. though Japan's base population is one-half of ours.

-- most engineering school equipment dates form the 1950's and is not representative of modern industrial practice.

I strongly believe that the National Science Foundation is the agency best able to restore the health of American science education. To do so, its budget must acknowledge the strong interdependence between science research and science education and both these activities must be adequately supported.

Though my request to you today is to insure the future of Science Education at NSF, I think I would be remiss to ignore the grave economic situation in our country today. As a college president I am all too familiar with the problems caused by inflation, rising costs and diminishing support. The economic recovery of our nation must be the goal for all Americans. But to cut funds for science and engineering education is, I believe, a serious strategic error. The investment that the federal government makes in science and engineering education today -- minimal by comparison to many other programs -- will have a long-term return to society.

In examining budget proposals for the elimination of Science Education within the National Science Foundation, it is important for all of us -- the authorization committees, the appropriations committees, the Foundation, the OMB, the President -- to take into account the findings of a recently published report, Science and Engineering Education for the 1980's and Beyond. The report's findings indicate that there is a need to improve the quality and amount of science, mathematics and engineering education provided to U. S. students. Our schools and colleges are falling behind the Soviet Union, Japan, West Germany and France in science and mathematics education. The level of scientific literacy in the U. S. is lower than in other industrialized countries.

To rectify these problems a new national "commitment to excellence in science and technology for all Americans" is called for. A coordinated program to increase public awareness of the need for excellence in science and technology and help the schools fulfill their role in formal science and technology education is recommended.

The former Administration's budget proposals for Science and Engineering Education were a response to the findings of that report. The data in this report and its implications transcend partisan politics. I urge this Committee to consider its findings as it makes its decisions on funding levels for the Science and Engineering Education Directorate.

I would like to point out here that the American Association of State Colleges and Universities and the other groups listed concur with the statement of Chancellor Melvin A. Eggers, Syracuse University, representing the Association of American Universities and the National Association of State Universities and Land-Grant Colleges. Specifically, the groups that I represent recommend that the Subcommittee on HUD - Independent Agencies, Committee on Appropriations take the following steps:

1. Authorize the Science and Engineering Education Directorate of NSF to be funded at $75 million as proposed in H. R. 1520. At that level it would be able to fulfill its contractual obligations and to support at cost-effective levels a limited number of program activities having the very highest priority because of their unique national significance.

2. Authorize the entire 1982 SEE budget in three subactivities. Do not explicitly require the funding of any existing programs or specify their budget levels. Even at current levels, or higher, SEE has too many separate mandated programs (almost 30). Most programs are badly underfunded and hence only partially effective. At lower levels, flexibility and focussing are essential. We suggest the following subactivities and 1982 budget levels:

Research and Analysis	($10 million)
Pre-College Programs	($30 million)
Higher Education Programs	($35 million)

3. Require the NSF to reorganize SEE to reflect the new budget authorization policy. While the specifics should be left to the agency, the functions should be made clear by the Congress.

Research and Analysis. This division as a unit of SEE would provide support for carefully selected research applied to the most urgent problems in science and engineering education. It would also be responsible for the collection, analysis and dissemination of information about key aspects of the nation's science education enterprise including its status relative to that in other countries.

Pre-College Programs. This unit should design and administer a set of activities that are targeted at those, and only those, parts of the pre-college science education enterprise in which the federal role can be decisive and for which it is uniquely qualified. Of special concern should be up-grading the quality of junior and senior high school teachers, and student-oriented activities -- such as "3-2-1 Contact," "Saturday Academies," and summer research internships -- to attract talented youngsters into thinking about careers in science and engineering.

Higher Education Programs. This unit would be charged with supporting a carefully focussed and coordinated set of college/university level activities to improve the quality of science education available to both general students and science and engineering majors. The activities, the priority and individual magnitudes could change over time in relation to shifting needs as identified by the Research and Analysis unit. Support for science student recruitment, faculty development, course development, interinstitutional resource and information sharing, and instructional instrumentation could be included.

I would like to give this Committee some idea of the importance of Science Education programs to AASCU institutions and the relevance of these programs to our nation's scientific endeavor. For example, Science Education programs have addressed the following questions:

How have NSF Science education programs encouraged colleges and universities to rapidly introduce important new scientific and educational concepts to undergraduates?

- The goal of a Local Course Improvement Program grant to Tennessee Tech was to improve undergraduate courses in engineering mechanics and material science. Instructional computer graphics programs were developed to supplement lecture presentations. The program, tutorial in nature, allows for active interaction of the students. It is anticipated that these computer graphics will aid the students in better understanding of difficult topics such as stress-strain curves, volume-fraction analysis, and truss and frame analysis.

- Another grant from the Local Course Improvement Program to William Paterson College of New Jersey permitted the development of curriculum incorporating ethical value issues in the biological and behaviorial sciences.

How have NSF science education programs encouraged colleges and universities to upgrade instructional laboratory equipment?

- An Instructional Scientific Equipment Program grant to the Electrical Engineering Department at Tennessee Tech permitted the development of a thick film microelectronics laboratory. This laboratory has now been expanded using university resources to include thick film facilities. Although the lab initially served undergraduate students, it now serves both undergraduate and graduate students for the fundamental study of electrical properties of materials.

- At Humboldt State University (CA) a 1980 ISEP award permitted the acquisition of a scanning electron microscope for joint use in the biology and geology departments. This microscope will allow students to study such diverse subjects as blood cell structure, plant pollens and microfossils.

- NSF funds have also been used to extend the life of existing instructional scientific equipment. The University of Missouri at St. Louis received funds to renovate a T-60 Nuclear Magnetic Resonance Spectrometer. Refurbishing the equipment will be completed at 1/3 the cost of replacement and will result in improving the quality and scope of the chemistry curriculum from sophomore to senior year.

How have NSF science education funds been used to improve the quality and effectiveness of undergraduate science education?

- A Comprehensive Assistance to Undergraduate Science Education (CAUSE) grant to Tennessee Tech was used in the development of an undergraduate interdisciplinary real-time digital system program. This is a three-year interdisciplinary project involving six engineering departments and four non-engineering departments -- biology, earth science, chemistry and computer sciences.

In the past undergraduate students at small universities such as Tennessee Tech have been unable to do real-time computer work due to the cost of standard computer equipment. This project has permitted the development and acquisition of four "stand-alone" microcomputer systems at about one-tenth of the cost of standard systems. The laboratory will permit undergraduate students to learn and apply data acquisition systems currently being used by large processing industries. Biology st[illegible] will learn techniques for acquiring environmental information through data acquisition systems designed and tested in the microcomputer laboratory.

Faculty from ten teaching areas are presently undergoing training in the lab so that they will be able to use and teach in the laboratory. For the first time this fall, Tennessee Tech offered an undergraduate course that will deal with the design and use of microcomputers in the processing industries.

- At Lyndon State College (VT), a CAUSE grant will support the college's efforts in the development of curriculum resources in computer sciences and encourage an increase in computer literacy among students. Computer assisted instruction (CAI) will take place in courses related to the College's science and meteorology programs permitting students to study theories and solve problems at a pace commensurate with their understanding of the material. The CAUSE grant was supplemented by $80,000 from the Digital Corporation.

- At State University College at Cortland (NY) two CAUSE grants were used to establish a geological field strain which served a consortium of twelve colleges and provided invaluable field experience for large numbers of undergraduate science students. A second grant supported the development of still another component of field experience, this time primarily for biology students at the nearby Hoxie Gorge location. Neither of these projects would have been possible in their current form without support from NSF.

How have NSF Science Education funds provided opportunities for the professional development of pre-college teachers of science so that they can provide students with more current instructions?

- The Pre-College Teacher Development Program at Northern Arizona University brought together local university scientists and teachers, administrators and tribal representatives from a number of reservations to determine their special science education needs. Proposals for science and math education that reflect their particular cultural settings were developed and are now being implemented in a number of schools with large Indian populations.

- Laboratory and class work utilizing faculty from the New Jersey Institute of Technology's chemistry, physics, mathematics and engineering departments provided secondary school teachers with an objective view of the complex and ever-changing energy problem. This energy and conservation information was then carried back to the high school classroom and incorporated in the curriculum.

- At the University of South Florida, a project in Human Genetics Education will allow junior high school and senior high school teachers to participate in the development, implementation and evaluation of a continuing program in biology for teachers in Southwest Florida.

How have NSF Science Education funds attracted women to careers in science?

- The Center for Women's Services at Western Michigan University in Kalamazoo will conduct workshops and offer career counseling and professional and personal development programs. The Center also will advise student groups, conduct monthly discussion meetings on science topics, and publish a bulletin on regional science career opportunities.

- A grant to California State University at Northride enabled the institution to recruit, retrain, and place in professional engineering apprenticeships fifty-two women who had earned bachelor's degrees in science during the previous decade, but had not entered the scientific labor force.

How have NSF science education funds increased and facilitated the participation of handicapped individuals in science?

- At the New Jersey Institute of Technology a unique laboratory run by two handicapped engineers developed the technical skills of the physically impaired students enrolled. It gave these students the confidence to proceed with their career goals. Non-handicapped students also participated in the laboratory in adapting and designing the equipment and procedures to the students' particular needs.

How have NSF Science Education funds provided college students with experience in independent, self-directed study and research of their own design?

- Responding to the increasing concern over the nation's growing consumption of limited natural resources, a team of engineering students at Memphis State University (TN) designed and tested what they hope to be a reliable and economic device for monitoring gas usage in households. No device for such measurement is presently available and an aim of this study is implementing a processor which can provide quantity and cost information regarding gas usage.

The programs of the Science Education Directorate have been of major importance to all AASCU institutions. In FY 1980 they provided close to seven million dollars in vitally needed funds to our campuses. The long term pay off when the generation of students currently enrolled at our colleges and universities become actively involved in our science effort and industrial base will be significant. Without these funds it is unlikely that we would have been able to move ahead as rapidly.

Today, I would also like to comment on some of the unique problems that our engineering schools encounter.

At Tennessee Tech our engineering enrollment during the last six years has just about doubled in size. Yet this tremendous increase in size has not been reflected in equal growth of faculty, resources or equipment. On the contrary our institution has had to deal with more students and less faculty.

A similar story can be told at California Polytechnic State University at San Luis Obispo where there has been a 13% increase in engineering enrollments over five years despite the fact that the university has a ceiling on enrollments by major. This 13% increase has taxed the university's resources to the point where they are no longer able to meet the demand for students wishing admission. For fall 1981, 1,161 students who applied to the School of Engineering have been rejected because of faculty and facility restrictions.

The hiring of additional Ph. D. faculty for our engineering school to cope with enrollment surges has been difficult for two reasons: the faculty salaries are not competitive and the available pool of potential faculty is too small. At the present B. S. graduates from engineering schools are getting annual salaries upon graduation which exceed academic salaries of new faculty with doctorate degrees. This discourages qualified students from pursuing graduate studies which eventually would lead to a faculty position. Nor are we able to retain the faculty that we have. Each year some are lured away by the higher salaries offered by industry.

The University of Alabama in Huntsville for the past several years has only been able to fill half the engineering faculty positions open; this year, they were only able to fill one position. In addition, the university lost to industry six faculty members this year.

The difficulty of acquiring and maintaining adequate faculty size coupled with surging enrollments has meant that many of our classes are double the size they were several years ago. I estimate that over two-thirds of our classes are now too large. This is particularly devastating in our design courses where individual and small group attention is a must -- where many solutions to design problems are possible and all have to be checked individually.

California Polytechnic State University at San Luis Obispo has found class size to be a leading contender in the decline of faculty morale and a contributor to faculty looking for employment opportunities elsewhere. Class size is excessive at all levels due primarily to budgetary problems and lack of faculty. In the engineering programs there is a serious shortage in faculty which has resulted in the inability of the university to offer certain necessary courses at times when they are required. The possibility of some students making normal progress in their degree programs is thus being jeopardized.

At the Montana College of Mineral Science and Technology record levels of enrollment coupled with problems of hiring and retaining faculty have resulted in class sizes large enough to threaten the school's accreditation.

Problems caused by faculty shortages and retention are further compounded by the poor state of our laboratories. The fact is that we have been unable to maintain our laboratory equipment. It is currently outdated and in a state of disrepair. We have not been able to replace the equipment that we need. Our students are being trained on equipment which is obsolete to industry. During the last ten years we have depended very heavily upon the NSF Science Education programs to help in the replacement of our obsolete equipment. For example, without the CAUSE program described above we would be at ground zero in microprocessors.

Because funding by the state of California has been cut back in the past few years California Polytechnic State University at San Luis Obispo has been unable to keep abreast of needs in laboratory equipment, maintenance and replacement. They lack technicians to maintain and repair equipment; there aren't enough funds to purchase repair parts and much of the equipment is so old it is difficult to obtain replacement parts. In some cases the University has asked for and received donations from industry. Industry's obsolete equipment is then used in the laboratory instruction programs -- though obsolete by industry standards this equipment is in most cases newer than the equipment already in the laboratories.

Thank you for giving me the opportunity to appear here today. I hope that my plea has been heard. I would be happy to answer any questions you may have.

STATEMENT OF JAMES L. POWELL, VICE PRESIDENT AND PROVOST, OBERLIN COLLEGE, GREAT LAKES COLLEGES ASSOCIATION

Senator GARN. Next, James L. Powell, vice president and provost, Oberlin College, Great Lakes Colleges Association.

Mr. POWELL. Good morning, Senator Garn. Thank you very much for giving me this opportunity.

I was very pleased to learn earlier this morning that yesterday the conference committee had agreed to a rescission of $10 million instead of the $16 million that had been proposed. We are very grateful for that action in the fiscal year 1981 budget.

During the last Presidential campaign, and many times since then, we have heard much about the national imperatives of improving our defense capability, increasing industrial productivity, and finding solutions to the energy crisis. All three clearly depend on the existence of a highly trained group of scientists and engineers. It doesn't seem to me that anybody could really disagree with that, regardless of their political persuasion.

QUALITY OF SCIENCE AND TECHNOLOGY ENDANGERED

It seems obvious that unless the quality of training of U.S. scientists and engineers is equal to that of other countries, then in the long run the quality of our science and technology will be inferior. Apparently we have trouble remembering this elemental fact, and perhaps we require a Sputnik-like lesson every generation or so.

Now it seems to be the Japanese who are teaching us that if we are not as clever, if we work less hard, and if we invest less in the training of our scientists and engineers, other countries may assume the preeminence that we have enjoyed since World War II.

I had planned to say a bit about the state of science education in the country, but I think Dr. Wright and Dr. Wirszup later will cover that. So I will skip that section of my testimony in the interest of time.

I would just note, as everyone probably will this morning, that we have slipped very badly. I think if you look at the last page of my testimony, the graph shown there as appendix B, you can see what I believe is part of the reason. It shows the funding from the initiation of the Foundation for basic research and for science education, and the basic research line climbs at a rather steep rate and the science education line rises a little through the sixties and then takes a precipitous turn down in 1981 and the proposed 1982 budget.

If I may just comment for a second on the question you asked the previous speaker, it seems to me that the National Science Foundation funding for science education will not solve any sort of manpower problem in the country; nor will it necessarily force schools to increase requirements. But I think NSF is an important symbol of quality in science education. For the National Science Foundation to pull out of science education seems to me to be a very negative signal. It certainly won't help the problem you identified. It won't make the children's education, at whatever level, any better. I think in the long run it will have a negative effect.

I think it is worthwhile, too, to recall in all of these discussions that the National Science Foundation has a mandate from the Congress, and it is worth quoting, I think, a couple phrases from that mandate:

> To develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences.

And farther along—

> To initiate and support programs to strengthen scientific research potential and science education programs at all levels.

It strikes me that whenever the word "research" is used, it is very quickly followed by the words "science education." It seems clear the congressional leaders who established the Foundation nearly 30 years ago saw these both as dual functions of the Foundation. That would be quickly ended if the administration's proposed budgets were to be allowed to go through.

The administration's fiscal 1982 budget, which obviously is a bare holding action that would phase out all science education support, has been rejected by the authorizing committees of Congress. My prepared testimony shows a chart giving the results of various congressional committee actions to date. What I have done there is to average the two Senate committees' requests—the $20.4 million and the $19.9 million—and then average them with the House authorization, which comes out to about $47.6 million. This is a fictitious figure, but it gives an idea of what would happen if you were to merely average the results of the process so far. That would be about 4.3 percent of the total NSF budget. I think that such a resolution would still be likely to be too severe for the safety of our science education program.

The preservation of the core science education program goals in that way would not improve the state of science education we cited earlier, but it would be better than something else, obviously. We hope that this committee and the Congress will set priorities for what are the rock bottom essentials of the Science Foundation's education program. If there is a sudden halt, the malfunctions which would eventually occur might not be immediately obvious, but they would be there sooner or later.

First of all, we would hope that you will urge that the National Science Foundation assert its traditional role of supporting the very best in science education as reviewed by peers, to be a symbol of quality in the process I spoke of earlier.

NSF SUPPORT URGED

We hope that you will recommend that NSF support science education on all levels—precollege, undergraduate, and graduate. For some emergency period, which is what we seem to be in now, we would agree that certain programs with similar goals might be merged together under their major purpose. In my testimony, I place together some of the different programs that we think could be so handled in three categories: Personnel improvement, which our faculty and the college I represent thinks is most important; second, instructional scientific equipment; and third, course improvement. If you have strong personnel, if you have the good equipment and modern curriculum, then you have the core of a good science program. We hope the Science Foundation will be able to play a role in the retention of such programs.

For the long run, we repeat our often-made request that funding for the science education program should be brought gradually to some reasonable fraction of the basic research budget and then held there through the ups and downs of the annual budget cycle. It seems to me something like that is what Congress had in mind when it created the Foundation and when it referred to science education immediately after referring to research in every instance.

We have previously suggested that a fair proportion would be one-third, which would be far less than the one-half that existed in the late 1960's. Obviously, this is not a time to talk about one-third of the total Science Foundation's budget for science education. We would settle for some small fixed percentage of the total NSF budget for science education.

We do feel that science education obviously needs some sort of protection in the basics because its annihilation, which has been proposed recently, could perhaps have been perceived in earlier NSF budgets. It is just now more extreme than it has been.

In summary, we believe that the future of our national defense and industrial technology are dependent upon high quality science education. There is no mystery of where the scientists and technologists are. They are in our secondary and undergraduate schools today. Instead of cutting back our lifeline to future safety and economic well-being, we should be repairing the shortfalls that other speakers will be referring to this morning that have already been evidenced by our citizens' eroded understanding of science and mathematics.

Thank you, Mr. Garn.

Senator GARN. Thank you very much, Mr. Powell. There are a lot of questions I would like to ask all of you, but we would be here until 3 tomorrow afternoon if I don't proceed to the next witness. So thank you very much.

Mr. POWELL. Thank you.

[The statement follows:]

STATEMENT OF DR. JAMES L. POWELL, VICE PRESIDENT AND PROVOST, OBERLIN COLLEGE

I am very grateful for this opportunity to testify before you as you begin review of the National Science Foundation budget for 1982. I represent the fifteen independent colleges and universities which share the Independent Colleges Office,* the twenty-eight members of the Association of Jesuit Colleges and Universities, the 850 independent colleges and universities and 70 supporting associations that are members of the National Association of Independent Colleges and Universities and the 1,600 members, including associated and constituent organization members, of the American Council on Education. I speak from my background as a graduate of both a four-year college and a major technical university, as a teacher of science, a published researcher, and currently as a college administrator.

We heard during the last campaign and since of these national imperatives: improve our defense capability, increase industrial productivity, and find solutions to the energy crisis. All three depend on the existence of a highly trained group of scientists and engineers. Surely no one, Republican or Democrat, liberal or conservative, can argue otherwise.

It seems obvious that unless the quality of training of U.S. scientists and engineers is equal to that of other countries, then ultimately the quality of our science and technology will be inferior. Apparently we have trouble remembering this elemental fact, and require the repetition of a Sputnik-like lesson every generation or so.

Now it is the Japanese who are teaching us that if we are not as clever, if we work less hard, and if we invest less in the training of our scientists and engineers, other countries will assume the pre-eminence that we have enjoyed since World War II.

The recent report on science and engineering education, "Science and Engineering Education for the 1980's and Beyond," produced commentary in The New York Times, The Washington Post, Science magazine and elsewhere. The report showed that the minority of students who plan careers in science or engineering are learning as well as ever. But the latest information on high scores on the mathematical portion of the Scholastic Aptitude Test (Washington Post, March 2, 1981) shows that even the number in the top group, those who score 650 or better, is declining. Between 1972 and 1980, twenty-two per cent fewer students achieved these scores.

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*The Independent Colleges Office is the Washington Office of the Great Lakes Colleges Association whose members are: Albion College, Antioch University, Denison University, DePauw University, Earlham College, Hope College, Kalamazoo College, Kenyon College, Oberlin College, Ohio Wesleyan University, Wabash College, The College of Wooster. Other Independent Colleges Office members are: Beloit College, Reed College, Rollins College.

The majority of students, the nonspecialists, are dropping science and mathematics courses sooner than they used to and getting poorer scores on tests. (See Appendix A.) Too many are leaving school as scientific illiterates, thus worsening the "two cultures" gap about which the late C.P. Snow spoke. "We fear loss of our competitive edge," the report said, concluding that the United States lags behind the Soviet Union, Japan and West Germany in elementary and secondary school programs in science and mathematics.

In my testimony I will

1. Review the mandate of the Congress to the National Science Foundation, specifically as it concerns science education, and examine the extent to which that mandate has been fulfilled;
2. Summarize the Administration's and authorizing committees' proposed budgets for Science Education in fiscal 1982, and
3. Propose budget priorities for Science Education that reflect both straitened circumstances and the Congressional mandate regarding Science Education.

The NSF Mandate and its Fulfillment

The National Science Foundation functions under a mandate from Congress " . . . to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences." The Foundation is " . . . to initiate and support . . . programs to strengthen scientific research potential and science education programs at all levels . . . ."

These words were chosen with care, and I believe that Congress should see to it that their meaning is reflected in the actions and budget of the Foundation. For example, the explicit use of "at all levels" takes account of the essentially continuous nature of science education: What takes place at one level is important for the next highest level and so on up to the most specialized graduate research program. Within this spectrum the undergraduate level of science education is of particular significance; poor quality here is amplified with disastrous effect. Not only does a particularly talented subset of young people receive preparation for graduate studies in science, but another subset prepares itself to enter immediately teaching careers at the elementary and secondary level and still another subset takes its last course in science during these undergraduate years. This year we have heard acknowledgement of the importance of pre-college and graduate science education but notably less concern for undergraduate science education.

I submit that the close connection between quality science education (in one generation) and quality basic research (in a later generation) and the explicit NSF mandate for support of science education quoted above are of fundamental significance for any discussion of the goals of specific Foundation programming in science education. This has, in fact, been acknowledged by the Congress many times before: There is a continuity in the process of science education and in the strategies for developing first-rate scientific talent which makes nonsense out of any sharp demarcation between, for instance, the graduate level and the undergraduate level.

The words " . . . to initiate and support . . . " require that the Foundation give due attention both to the innovative and to the sustenance of the on-going process of science education. Neither is favored over the other in the mandate. Although at times the Foundation has seemed to be irresistably attracted to the trendy, we do acknowledge that it has understood that quality science education always has required and always will require certain basic ingredients: First, well-trained faculty and teachers; second, excellent modern curricula; third, up-to-date and well-maintained equipment and, fourth, able and well-prepared students. The Science Education Directorate has done an excellent job in developing programs which speak to these needs. With a bare subsistence budget painful choices among these programs must be made, a problem I will address later in my remarks.

What has been the recent record of the Foundation in strengthening Science Education programs? How has the NSF budget reflected that Congressional mandate? The evidence presented in Appendix B shows how support for the total NSF budget and for Science Education has now diverged to the point where the proposed budget for Science Education is a mind-boggling 9.5 one-thousandths of the total NSF budget for fiscal 1982. This decline in funding for Science Education was not caused by any dropoff in college enrollments, for it began more than a decade ago when enrollments were climbing. We believe that the explanation is simply that the Foundation and the Office of Management and Budget have elected to emphasize support for Basic Research over that for Science Education in direct contradiction to the mandate.

Proposed Fiscal 1982 Budgets for Science Education

The Administration's budget, a bare holding action to phase out all Science Education support, has been rejected by the authorizing committees of Congress. We show below the total NSF budgets and the Science Education budgets for fiscal 1980 (fiscal 1981 is presently subject to rescissions and therefore not final); the 1982 Administration request; the House Science and Technology Committee's authorizations recommendation and the two Senate authorizing committees' recommendations. We have for purposes of this discussion shown an average of the two Senate Committees' requests and then an average between the House Committee's recommendation and the Senate Committees' average recommendation. This fictitious figure (one still unbelieveably low to us) of $47.58 million is a frail 4.3 per cent of the total averaged NSF budget.

	NSF Total ($ millions)	Science Education Total ($ millions)	Science Ed as % of NSF Total
Fiscal 1980 NSF Actual	975.1	77.2	7.9%
Fiscal 1982 Administration Request	1,033.5	9.9	0.9
House Science & Technology Committee Recommended Authorization	1,160.7	75.0	6.5
Senate Labor & Human Resources Committee Recommended Authorization	1,044.5	20.4	1.95
Senate Commerce, Science & Technology Committee Recommended Authorization	1,047.5	19.9	1.9
* * * *	* *	* * *	* *
Projected Senate Average	*1,046.0*	*20.15*	*1.9*
Projected House/Senate Average	*1,103.35*	*47.58*	*4.3*

Proposed Priorities for Science Education

The resolution of the authorizing committees' recommendation on Science Education funding is likely, in our opinion, to be too severe for the safety of the nation's science effort. Preservation of core Science Education program goals will not improve the sorry state of science education we cited earlier. We look to you, however, to set priorities for the rock bottom essentials in order not to cripple the nation's science effort. The malfunctions which could result from a sudden halt may not show up immediately but they will inexorably occur.

+ First of all, we hope you will urge that NSF assert its traditional role of supporting the very best in science education as reviewed by peers.
+ We hope you will recommend that NSF support Science Education on all levels -- pre-college, undergraduate and graduate. For an emergency period only certain programs with similar goals can be merged under their major purpose. For instance, administrators of a Personnel Improvement core program could supervise both extended and short-term programs for undergraduate faculty as well as programs for undergraduate and secondary school students. Course improvement projects serving either undergraduate single courses or departments or divisions also can in this period of crisis be administered together. Other program functions may be similarly consolidated in this emergency period.
+ We hope you will look closely at individual programs to set priorities. Our survey of scientists in twenty-eight institutions lists these areas in order of importance:

1. Personnel Improvement to include
   - Summer opportunities for undergraduate student researchers,
   - Academic year leaves for undergraduate science faculty, and
   - Summer Institutes for secondary school science teachers.

2. Instructional Scientific Equipment, a vital component to improve and keep current science education.

3. Course Improvement to provide for
   - The redesign or development of a single undergraduate science course,
   - The redesign or reorganization of undergraduate departmental or divisional science course offerings, and
   - The development of new science courses and materials for secondary schools.

The Graduate Fellowships program is a high priority with our scientists. If the budget does not fall below $40.0 million, we would hope to see it retained in some form, perhaps for first year graduate students only with the research assistance Dr. Slaughter has mentioned in his testimony providing support for later years.

Research in Science Education was our scientists' lowest priority in the Science Education Directorate. We cannot recommend it in a budget below $40.0 million. In a somewhat higher budget we might hope that the purpose of the research could be clearly defined to identify needs in the field and develop programs to meet those needs and to test and evaluate new ideas.

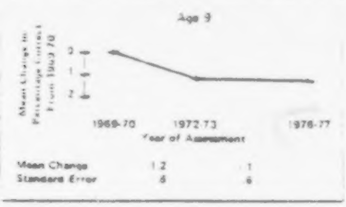
+ Outside of Science Education, our scientists urgently request that you recommend continuation of the vital Two- and Four-Year College Research Instrumentation Program, which enables faculty to carry on research at these campuses.

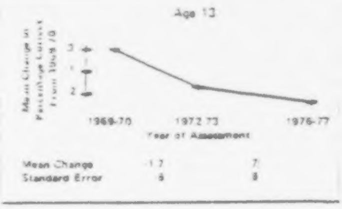
For the long run, we repeat our request that funding for Science Education should be brought gradually to a reasonable fraction of the Basic Research budget, and then held there through the ups and downs of the annual budget cycle. We have suggested one-third, far less than the one-half that existed in the late 1960's. To get the procedure under way, we would hope this Subcommittee will now support some small fixed percentage of the total NSF budget for Science Education.

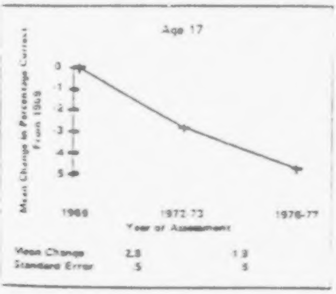
In summary, we believe that the future of our national defense and industrial technology are dependent upon high quality science education. The scientists and technologists of the immediate future are in our secondary and undergraduate schools today. Instead of cutting back this lifeline to our future safety and economic well-being, we should be repairing the shortfalls of recent years already evidenced by our citizens' eroded understanding of science and mathematics.

Changes in Achievement 1969-1977
Three National Assessments of Science

APPENDIX A

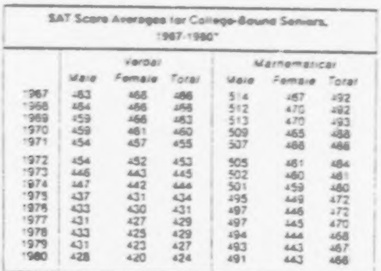






Source: National Assessment of Educational Progress, Education Commission of the States

Changes in SAT Average Scores for College-Bound Seniors 1967-1980



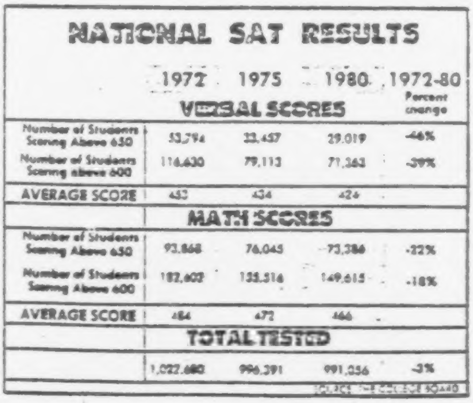
SAT Score Averages for College-Bound Seniors, 1967-1980*

	Verbal			Mathematical		
	Male	Female	Total	Male	Female	Total
1967	463	468	466	514	467	492
1968	464	466	466	512	470	492
1969	459	466	463	513	470	493
1970	459	461	460	509	465	488
1971	454	457	455	507	466	488
1972	454	452	453	505	461	484
1973	446	443	445	502	460	481
1974	447	442	444	501	459	480
1975	437	431	434	495	449	472
1976	433	430	431	497	446	472
1977	431	427	429	497	445	470
1978	433	425	429	494	444	468
1979	431	423	427	493	443	467
1980	428	420	424	491	443	466

* The averages for 1967 through 1971 are estimates of the averages that would have been reported for college-bound seniors of those years if such reports had been produced.

Source: "National Report: College-Bound Seniors, 1980," Admissions Testing Program
of the College Board

Changes in Number of High Scores on SAT, 1972-1975-1980



NATIONAL SAT RESULTS

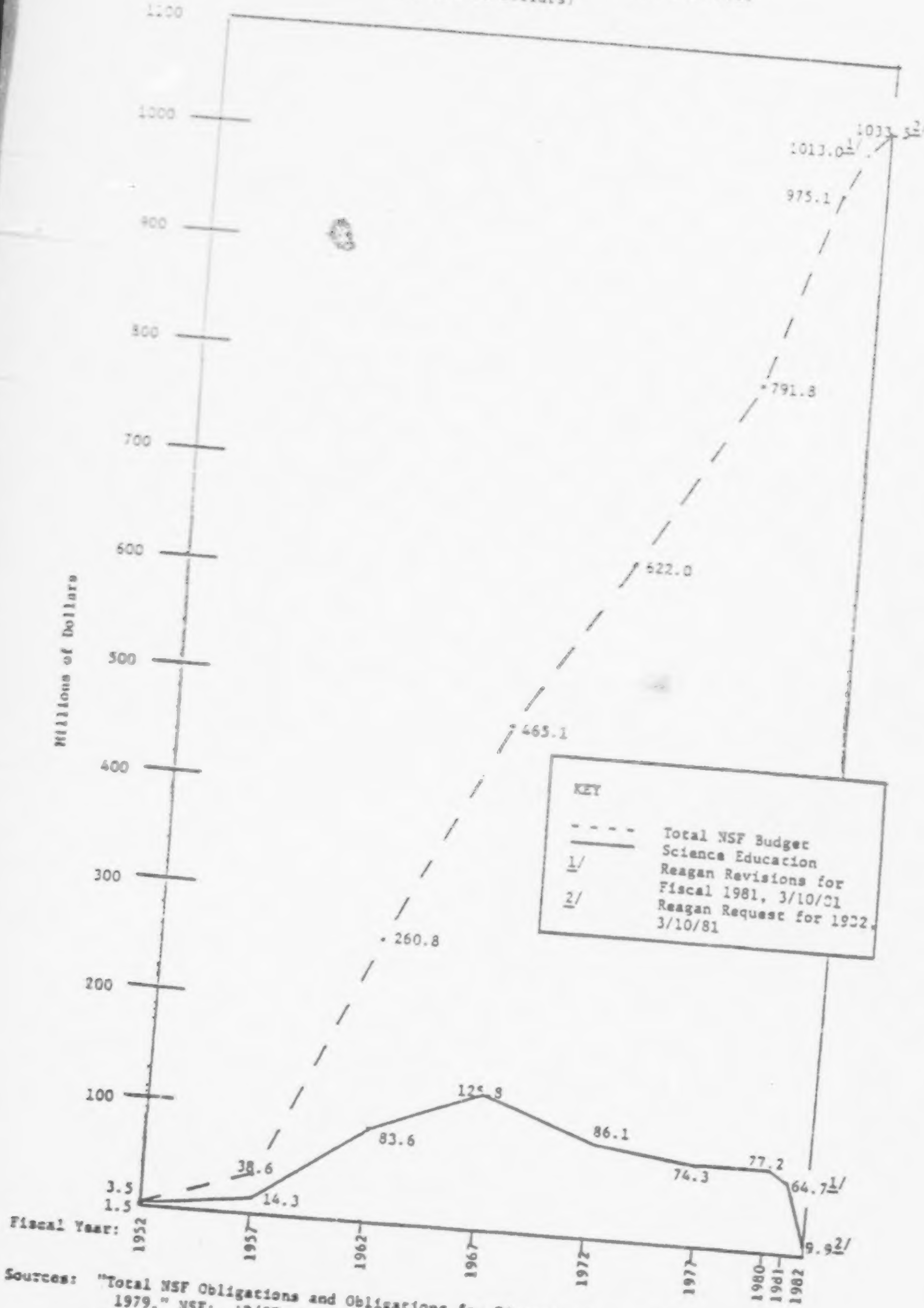
	1972	1975	1980	1972-80 Percent change
	VERBAL SCORES			
Number of Students Scoring Above 650	53,794	33,457	29,019	-46%
Number of Students Scoring above 600	116,630	79,113	71,363	-39%
AVERAGE SCORE	453	434	424	
	MATH SCORES			
Number of Students Scoring Above 650	93,868	76,045	73,386	-22%
Number of Students Scoring Above 600	182,602	135,316	149,615	-18%
AVERAGE SCORE	484	472	466	
	TOTAL TESTED			
	1,022,680	996,391	991,356	-3%

SOURCE: THE COLLEGE BOARD

Source: "Number of High Scores on College Board Exams Drops Dramatically."
The Washington Post, March 2, 1981, page 31.

APPENDIX B

Comparison of
NSF TOTAL BUDGETS AND NSF SCIENCE EDUCATION BUDGETS
Five-Year Intervals Fiscal Years 1952-1977 and 1980-1982
(Millions of Dollars)



Sources: "Total NSF Obligations and Obligations for Education in the Sciences FY 1952-1979," NSF: AD/SE, 1-12-78.
National Science Foundation Budget in Brief, Revised March 1981

STATEMENT OF ROBERT HATCH, VICE PRESIDENT, CHILDREN'S TV WORKSHOP

Senator GARN. Next I would like to call up Robert Hatch, Children's TV Workshop.

Mr. HATCH. Mr. Chairman, my name is Robert Hatch. I am the vice president for public affairs of the Children's Television Workshop. I, like you, Mr. Chairman, am a product of the State of Utah's educational system.

I am presenting the statement this morning on behalf of Joan Ganz Cooney, the president of CTW. We both want to thank you and members of the subcommittee for an opportunity to offer these remarks. I would like to present Mrs. Cooney's statement in brief, if I may.

Senator GARN. May I state, and I have not done so to some of the previous witnesses, that your entire statement will be placed in the record.

Mr. HATCH. Thank you.

I strongly urge that you and your subcommittee appropriate an adequate level of funds for fiscal year 1982 to enable the National Science Foundation to continue its vital support of education in science and the public understanding of science.

I want to make clear that we at CTW have a direct interest in these appropriations.

The NSF was part of a consortium that invested millions of dollars to create the first session of 3–2–1 Contact, an educational television series that captured the attention of millions of viewers in the past year as it attempted to make science more understandable and appealing to the Nation's 8- to 12-year-old children.

That consortium that created the series also included the Department of Education, the Corporation for Public Broadcasting, the United Technologies Corporation, and CTW itself. We have now proposed that NSF and others, including CTW, fund a second season of 3–2–1 Contact.

We think there are three urgent and interrelated reasons why the NSF should be permitted to continue its crucial support of science education. I would like to comment briefly on each of these.

WORLD LEADERSHIP RESTS ON SCIENCE AND TECHNOLOGY

First, America's industrial leadership clearly rests on its science and technology. This will be even more so in the years ahead. However, in some areas we are already losing our edge.

The case history of Japan is well documented before this committee. Japan is not a lone example. Even France has now joined Japan and West Germany as a formidable international trade competitor. So, perhaps it is not mere coincidence that France has developed its own version of our series 3–2–1 Contact or that West Germany has a version of the show as well. Both countries, working with CTW, produce special adaptations of the program to help attract their young people to science and technology. I should add that the French counterpart of NSF and a French production company have already expressed a strong interest in the second season of 3–2–1 Contact, if there is to be a second season.

To remain a world leader, America must attract more citizens to science and technology. However, scientists and engineers are not turned out overnight. They must be attracted to these fields at an early age.

As a recent NSF study pointed out:

> Students who take no more mathematics and science after their 10th year in school have effectively eliminated by the age of 16 the possibility of science or engineering as a career.

This is precisely why CTW's advisers for the 3-2-1 Contact series stressed the crucial importance of the elementary school years in attracting more persons to science and technology. By high school, they warned us, it is often already too late.

More basic, and alarming, are the children's own attitudes toward science in their elementary school years. This is my second reason for urging continued NSF support of science education.

The National Assessment of Educational Programs reports that only 6 percent of 9-year-olds in this country listed science as their favorite subject in school, and 27 percent had already decided that a career in science would be too much work and not very satisfying. These are attitudes of children who, for the most part, have yet to meet their first full-time science teacher. It is hardly surprising that the National Assessment finds science knowledge among young people in this country in a long-term state of decline.

Our schools, meanwhile, faced with tighter and tighter budgets, are compelled to cut educational programs. All too often this has meant downgrading what is sometimes termed nonbasics, like science, which is badly termed a nonbasic, at a time when science should be receiving more, not less, attention.

To reverse these disturbing trends it is imperative that the Federal Government, along with America's institutions and communications media, undertake a major and sustained effort to rekindle an interest in science and science education.

IMPORTANT ROLE FOR TV

Television, in particular, which most agree is a persuasive and powerful educational medium, can play an important role. CTW's experience in the first season of 3-2-1 Contact demonstrates TV's potential as an educator.

In its initial broadcast year, starting in January 1980, 3-2-1 Contact reached more than 23 million home viewers in addition to a sizable audience in the classroom. The schools responded enthusiastically. More than a quarter of a million elementary teachers asked for our teacher's guide for the 13-week series. In addition, we extended the impact of 3-2-1 Contact beyond even the home or the classroom. Using the series as a focal point, many museums and libraries and science centers mounted special educational projects to supplement the content of the TV program. The series even inspired the new Girl Scout merit badges in science.

This brings me to the third reason why NSF should be allowed to continue the support of science education. In these days of budget stringencies, it is important to note that quality educational television can be a very effective means of reaching large national audiences at relatively low cost. This is because the economics of television differ from those of classroom instruction.

By building a nationwide audience of millions of viewers, a quality educational television series can attain significant economies of scale and, at the same time, deliver the high production values that attract and hold those viewers.

The cost of delivering each episode of 3-2-1 Contact, for example, was only 7 cents per viewer. That included very extensive research, advisory, and audience building efforts that are essential to producing a series that is educationally sound and also attractive enough to hold millions of viewers. That modest cost was reduced even more when the first repeat broadcast of the series was underway last fall.

But, Mr. Chairman, if funds for NSF's science education program are eliminated, there can be no second season of the original American version of this series. If this happens—and I hope it will not—we will all lose, most particularly youngsters who otherwise may have been attracted to careers in science and technology; schools that need this valuable supplement to their science curriculum; and, ultimately, the Nation itself, which needs a strong and steady flow of scientists and engineers to retain its industrial preeminence in the years ahead.

America's children are its most vital resource and the very core of the country's future. Upon them will depend this Nation's capacity for innovation and leadership in the public, private, and military sectors in the years ahead.

The NSF's science education program merits and needs your continued support, Mr. Chairman.

This concludes my statement.

Senator GARN. Thank you.

Are you related to George Hatch?

Mr. HATCH. Distantly. I think everybody in Utah is a third or fourth cousin.

Senator GARN. You should be. He owns Channel 2 and the Journal.

Mr. HATCH. I am at the lower end of the Hatch family.

Senator GARN. The poorer side.

Mr. HATCH. Yes.

Senator GARN. Thank you very much. We appreciate your testimony.

[The statement follows:]

STATEMENT OF JOAN GANZ COONEY, PRESIDENT, CHILDREN'S TELEVISION WORKSHOP

My name is David V. B. Britt and I am senior vice president of corporate affairs for the Children's Television Workshop. I am presenting this statement in behalf of Joan Ganz Cooney, president of CTW.

We both want to thank you and members of the subcommittee for the opportunity to offer these remarks.

I now would like to present Mrs. Cooney's remarks.

* * *

I strongly urge you and your subcommittee to appropriate an adequate level of funds for Fiscal Year 1982 to enable the National Science Foundation to continue its vital support of science education and the public understanding of science.

I want to make clear that we at CTW have a direct interest in these appropriations.

The NSF was part of a consortium that invested millions of dollars to create the first season of 3-2-1 CONTACT, an educational television series that aims to make science more understandable and appealing to the nation's 8-to-12-year-olds.

That consortium also included the Department of Education, the Corporation for Public Broadcasting, United Technologies Corporation, and CTW. We have now proposed that NSF and others, including CTW, fund a second season of 3-2-1 CONTACT.

We think there are three urgent, and interrelated, reasons why the NSF should be permitted to continue its crucial support of science education.

These reasons, briefly, are:

* the importance of science to the nation's future as a leading industrial power;

* the currently negative attitudes of young people toward science;

* and the effective, and relatively inexpensive, approach educational television offers as a science educator for millions of American youngsters.

I would like to touch on each point.

* * *

America's industrial leadership clearly rests on its science and technology. This will be even more so in the years ahead. However, in some areas we are already losing our edge.

Japan, for example, now has 400 engineers and scientists for every 10,000 citizens; the United States has only 70.

Japan, with only half of our population, is surpassing us in the total number of degrees in engineering.

In productivity, Japan's rate is rising while ours is falling.

And Japan is not a lone example. France now has joined Japan and West Germany as a formidable international trade competitor.

As Fortune magazine reports in its May 4 issue, France's national policy is to excel in what it calls "the technologies of the future"--helicopters, aircraft, telecommunications, electronics, weapons systems, nuclear power, sophisticated industrial equipment.

These developments on the international stage suggest the scope and intensity of the challenge this nation will confront from the high technology countries for the remainder of this century.

So perhaps it is not mere coincidence that France has its own version of the 3-2-1 CONTACT television science series. Or that West Germany has one also. Both countries, working with CTW, produced special adaptations of the American program to help attract their young people to science and technology.

Both joint productions went on the air earlier this year and have since earned the acclaim of critics as well as the enthusiasm of French and German youngsters.

I should add that the French counterpart of NSF and a French production company already have expressed a strong interest in a second season of 3-2-1 CONTACT. MIDST, like NSF, is charged with enhancing the public's understanding of science.

To remain a world leader, America must attract more citizens to science and technology. However, scientists and engineers are not turned out overnight. They must be attracted to those fields at an early age.

As a recent NSF study points out, "students who take no more mathematics and science after their tenth year in school have effectively eliminated by the age of 16 the possibility of science or engineering as a career."

This is precisely why CTW's advisors for 3-2-1 CONTACT stressed the crucial importance of the elementary school years in attracting more persons to science and technology. By high school, it often is already too late.

* * *

More basic -- and alarming -- are children's attitudes toward science in their elementary school years.

The National Assessment of Educational Programs reports that only six percent of 9-year-olds listed science as their favorite subject in school. And 27 percent had already decided that a career in science would be too much work and not very satisfying. These are attitudes of children who, for the most part, have yet to experience their first full-time science teacher. It is hardly surprising that the National Assessment finds science knowledge among young people in this country in a long term decline.

Our schools, meanwhile, faced with tighter and tighter budgets, are compelled to cut educational programs. All too often this has meant downgrading "non-basics" such as science at a time when science should be receiving more, not less, attention.

* * *

To reverse these disturbing trends, it is imperative that the Federal government, along with America's institutions and communications media, undertake a major, and sustained, effort to rekindle an interest in science and science education.

Television in particular -- a pervasive and powerful educational medium -- can play an important role. CTW's experience in the first season of 3-2-1 CONTACT demonstrates television's potential as an educator.

In its initial run, starting in January 1980, 3-2-1 CONTACT reached more than 23 million home viewers and additional audiences in the classroom.

Moreover, the schools responded enthusiastically. More than 250,000 elementary teachers asked for our Teacher's Guide for the 13-week series. Surveys indicate the show was very effective in the classroom.

In addition, we extended the impact of 3-2-1 CONTACT beyond the home and classroom. Using the series as the focal point, many museums and science centers mounted special educational programs to supplement the content of the programs. The series even inspired new Girl Scout merit badges in science.

* * *

In these days of budget stringencies, it is important to note than quality educational television can be a very effective means of reaching large national audiences at relatively low cost.

This is because the economics of television differ from those of classroom instruction.

Formal classroom education is largely a local and state affair. To produce educational television for children at these levels is neither economical nor practical. With the limited funding generally available for such programming, the shows themselves cannot offer the production values that often are needed to attract today's visually sophisticated young viewers. And if adequate funds are available for quality television, the cost per viewer for these relatively small audiences simply would be too high to justify the investment.

On the other hand, by building a nation-wide audience of millions of viewers, a quality educational television series can attain significant economies of scale and, at the same time, deliver the high production values that attract and hold viewers.

The cost of producing 3-2-1 CONTACT, for example, is only 7 cents per viewer -- and that includes very extensive research, advisory and audience building efforts that are essential to produce a series that is educationally sound and also attractive to millions of youngsters. That modest cost was cut in half in the first repeat broadcast of the series.

* * *

If funds for NSF's science education program are eliminated, there can be no second season for the original, American version of this outstanding series.

If this happens -- and I hope it will not -- we will all lose:

* youngsters who otherwise may have been attracted to careers in science and technology;

* schools that need this valuable supplement to their science curriculum; and, ultimately,

* the nation itself which needs a strong and steady flow of scientists and engineers to retain its industrial preeminence in the years ahead.

America's children are its most vital resource, and the very core of this country's future. Upon them will depend this nation's capacity for innovation and leadership in the public, private and military sectors in the years ahead.

The NSF's science education programs merit and need your continued support.

* * *

This concludes Mrs. Cooney's statement. If you have any questions, I will try to answer them. Thank you.

STATEMENT OF IZAAK WIRSZUP, PROFESSOR OF MATHEMATICS, UNIVERSITY OF CHICAGO.

Senator GARN. Next we have Mr. Izaak Wirszup.

Mr. WIRSZUP. Good morning, Hon. Senator Garn. I am most grateful for the invitation and the opportunity to give testimony to you.

The weaknesses of the American educational system have become a national malady that gnaws at our economic strength, our competitive edge in technology and production, and our ability to defend ourselves. We can take pride in the achievements of a small but superb corps of top-level scientists, and by expert opinion we are still ranked the world's leader in science and technology, although this position has been eroding over the last decade. Our major universities and their graduate programs are the best in the world; yet the distressing fact is that the overwhelming majority of our population lives in a state of debilitating scientific illiteracy.

SUBPAR EDUCATIONAL STANDARDS IN UNITED STATES

A dangerous gap exists between our educational standards at the secondary school level and those of other industrialized nations, particularly the Soviet Union. The U.S.S.R.'s expanded exercise of power is based not just on its enormous arms buildup of the past 15 years but on concurrently developed science education and engineering manpower training programs that have created a military machine manned by highly skilled and educated personnel.

The introduction of high technology to the Soviet military-industrial complex demanded workers and soldiers with a better understanding of scientific and technological principles. The Soviet educational mobilization that started in November 1966, following the 23d Communist Party Congress, has been very successful in meeting these objectives. No less than 5 million students, or 98 percent, now complete a secondary education annually. Especially impressive is the fact that 3 million skilled workers and white-collar technicians are produced each year by the secondary school alternatives. These technical-vocational and specialized professional schools frequently offer programs in science and engineering that correspond to between 2 and 3 years at U.S. technical institutes or colleges.

By comparison, the vast majority of our own high school graduates have studied no physics, no chemistry, no geography, no foreign language, and have had only a modicum of mathematics. Indeed, the disparity between the level of training in science and mathematics of an average Soviet skilled worker or military recruit and that of an average American high school graduate, industrial worker, or Army recruit is so great that comparisons are meaningless.

The Soviet Union's tremendous investment in human resources, unprecedented achievements in the education of the general population, and immense manpower pool in science and technology is already having an immeasurable impact on that country's scientific, industrial, and military strength. It is my considered opinion that the Soviet educational mobilization, although not as spectacular as the launching of the first sputnik, poses a formidable challenge to the national security of the United States, one that is far more threatening than any in the past and one that will be much more difficult to meet.

Table IV appended to my statement I, which I prepared especially for the U.S. Senate, gives a comparison of earned degrees in 1979 in the training of engineers, technicians, and skilled workers in the United States and the Soviet Union. The statistics indicate the gravity of our educational crisis and need no further comment.

CALL FOR EDUCATIONAL REVIVAL

Our Nation desperately needs an educational revival. We must begin to view education as a critical renewable resource essential, not just to our well-being, but to our survival.

I hope my testimony will dramatize the pressing need to preserve the NSF directorate for science and engineering education—in fact, to extend its responsibilities—and that my statements here will demonstrate the necessity for immediate action to revitalize American schooling as a whole.

The economic revitalization of our society and the insurance of a strong defense demand a national program to fully develop our human resources, beginning with the reform of our elementary and secondary educational system. If we fail to make this investment, the consequences will be disastrous.

Our goal should not be to imitate Soviet achievements, methods, or systems, but to conceive whatever new forms of American education are necessary to preserve our freedom.

The general public is showing increased awareness of the close and intricate relation between the state of our educational system and our economic position and national security. Representatives of every segment of society, from leaders of industry to concerned parents, are looking for moral leadership and a nationwide program to solve the present educational crisis. Even more than funding, society needs guidance, purpose, and hope. It will then be ready to make serious commitments to an educational revival.

It has been most painful to write this report, to be so critical of my adopted country. But it would be more painful still to see the United States lose its great promise of peace, prosperity, and freedom because it was lost and asleep in a dream world. We need a firm awakening.

PREPARED STATEMENTS

I submit herewith, for the hearing record, two documents: A statement of June 3, 1981, addressed to you, Senator Garn, and my report of December 14, 1979, addressed to the National Science Foundation.

I am most grateful, Senator Garn, for your giving me the opportunity and for your patience. Thank you, sir.

Senator GARN. Thank you very much for coming. Both of your statements will be printed in the record in full.

[The statements follow:]

STATEMENT I OF IZAAK WIRSZUP, PROFESSOR OF MATHEMATICS, UNIVERSITY OF CHICAGO

In December 1979 I sent the National Science Foundation [NSF] a report on my comparative study of Soviet and American pre-university education (see Statement II). The report described the Soviets' ongoing "educational mobilization" - the innovative restructuring of their secondary educational system to include vast manpower training programs, their radical curricular reforms, and, above all, their tremendous investment in human resources.

Although it was presented cautiously, this information came as a shock to the American academic community and to the government. It appeared that the United States had been inattentive to the Soviet challenge in science, technology, and engineering programs, despite their having been launched as early as the 23rd Communist Party Congress in 1966.

The response to my report was immediate and much greater than expected. On February 8, 1980, President Carter ordered the Director of NSF and the Secretary of the Department of Education to review our science and engineering educational policies; the result was the publication last fall of a report entitled "Science and Engineering Education for the 1980's and Beyond". The findings of both reports have been discussed in professional journals and in the daily press here and abroad. NSF noted that my research had been a factor in the President's order, and the NSF-Department of Education study itself states that my conclusions were corroborated by a study by SRI International and by the work of independent experts.

The positive reaction to my work from scientists, educators, and representatives of many other interested groups was very gratifying. I was particularly encouraged by the strong moral support I received from Senator Charles H. Percy.

Your Committee's concern for science, education, technology, and industry, and their combined effects on our economy and defense, prompt me now to ask for your help in preventing a major policy error concerning the NSF Directorate for Science and Engineering Education. The funding proposed for the next fiscal year will virtually destroy the agency; this could scarcely come at a more inopportune time. The Nation desperately needs an educational revitalization. I therefore appeal to your Committee to use its considerable influence to persuade the legislative and executive branches of the crucial importance of preserving the Directorate and enhancing its functions.

The weaknesses of the American educational system have become a national malady that gnaws at our economic strength, our competitive edge in technology and production, and our ability to defend ourselves. We can take pride in the achievements of a small but superb corps of top-level scientists. But the distressing fact is that the overwhelming majority of our population lives in a state of debilitating scientific illiteracy.

A dangerous gap exists between our educational standards and those of the Soviet Union. We must begin to view education as a critical renewable resource essential not only to our well-being, but to our survival.

I hope my testimony will dramatize the pressing need to preserve the NSF Directorate for Science and Engineering Education, and that it will demonstrate the necessity of immediate action to revitalize American schooling as a whole.

I shall focus on a few striking examples from American and Soviet education in mathematics, the sciences, and other disciplines, and then touch briefly on some of the pervasive problems in American education, relating them to the current state of our productivity and defense preparedness. Finally, I shall make some recommendations for strengthening our school system, and discuss the urgent need for establishing and supporting national educational leadership in the United States.

Since my report to NSF of 14 December 1979, the United States has witnessed the invasion of Afghanistan and other attempts to extend Soviet hegemony. It is not generally known, however, that the USSR's expanded exercise of power is based not just on its enormous arms buildup of the past 15 years, but on concurrently developed science education and engineering manpower training programs that have created a military machine manned by highly skilled and educated personnel.

The USSR's educational system is the product of planning, experimentation, and investment spanning more than half a century. For many years the Soviets were content with the creation of a small scientific elite, while the majority of their students remained at low levels of academic performance. Many factors converged to change this educational policy. A labor shortage in the European portions of the USSR threatened the continued supply of trained manpower. The introduction of high technology to the Soviet military-industrial complex demanded workers and soldiers with a better understanding of scientific and technological principles. Meanwhile, their own studies showed increased productivity from workers who had received a general education plus technical training in schools rather than on the job, and research in the academies led to notable advances in educational psychology, paving the way for more ambitious curricula and effective teaching methods at every school level.

The school reforms of 1966 have been forcefully and rapidly implemented. Obstacles have been encountered, especially with the new two-year calculus requirement, but carefully monitored experimentation and change have steadily improved programs. The general restructuring and curriculum reforms preserve the goal of a diversified multi-track system of education that (1) keeps every student in school through the secondary level; (2) guides him into a course of study corresponding to his abilities; and (3) ensures a large pool of trained, well-educated labor for Soviet military-industrial production. The Soviets have been very successful in meeting these objectives. No less than 5 million students, or 98%, now complete a secondary education annually. Especially impressive is the fact that 3 million skilled workers and white-collar technicians are produced each year by the secondary school alternatives. These technical-vocational and specialized professional schools frequently offer programs in science and engineering that correspond to between 2 and 3 years at U.S. technical institutes or colleges.*

In only ten years, the Soviet compulsory program for all students covers the equivalent of at least thirteen years of American schooling in arithmetic, algebra, and calculus, and does so much more thoroughly and effectively. The American one-year geometry course offers but a very small fraction of the Soviet 10-year geometry curriculum.

Of the approximately 4 million American youngsters who reach the age of 17 each year, 3 million have had arithmetic for 9 years. In the first 6-8 years their teachers generally have no special training in mathematics. Nine years of repetitious drill is a waste and a terribly damaging experience. The resulting feelings of near-stagnation and incompetence are both a cause and a symptom of the deplorable state of U.S. mathematics and science education, and consequently of our technical training.

In other industrialized countries, children complete arithmetic in 6 years. The Russians, however, cover arithmetic proper in the first three grades and complete arithmetic and even start algebra in grades 4 and 5. What has helped to make this remarkable achievement possible is that from the fourth grade on mathematics is taught by a specialized mathematics teacher, whose mathematical training is equivalent to at least a master's degree program in the United States. Even Soviet teachers for grades 1-3 receive extensive training in mathematics, the sciences, and educational psychology and teaching methodology based on advanced research.

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* See Appendix of Tables: [1] Diagram of Soviet Educational System, showing secondary school alternatives; [2] Curriculum of Soviet 10-year General Education School; [3] Mathematics in the Soviet 10-year General Education School; [4] Earned Degrees in 1979--Training of Engineers, Technicians, and Skilled Workers.

Comparisons in geometry are even more disturbing. Only half of our population takes one year of plane geometry. Yet most of these students simply never learn geometry, because we attempt to teach it in a single year, while empirical evidence and modern educational psychology tell us emphatically that we cannot.

In contrast, all Soviet students study geometry for 10 years: 5 years of intuitive geometry, 3 of semi-rigorous plane geometry, and 2 of solid geometry.

American secondary school physics, another building block of science education and technical training, is in disastrous condition and must be changed radically. Less than a tenth of our high school students take a one-year physics course. The total number of physics teachers — for over 17,000 U.S. school districts — is only 10,000 and shrinking rapidly. In the Chicago public school system, there is only one physics teacher for every two high schools.

In the USSR secondary school students take 5 years of compulsory physics courses. In its 200 pedagogical institutes the Soviet Union trains 8,500 specialized physics teachers each year. The Soviet journal Physics in the School, a 94-page bimonthly, is published in 184,000 copies, as opposed to the 7,000 copies of its American counterpart, The Physics Teacher.

The pattern continues across the board. In chemistry, only 16.1% of our high school students take a one-year course, while all Soviet youngsters complete four years of chemistry, including a full year of organic chemistry. Soviet students also receive 4 and a half years of compulsory training in biology (compared to the one-year biology course in the U.S.), 1 year of astronomy, 3 years of mechanical drawing, and 10 years of workshop and technical training.

The disparity between the level of training in science and mathematics of an average Soviet skilled worker or military recruit and that of a non-college-bound American high school graduate, industrial worker, or army recruit is so great that comparisons are almost meaningless.

Our educational crisis is by no means limited to mathematics and the sciences. Barely 9% of our students have any exposure to geography as a separate subject, mostly in the form of one-semester courses. Geography teaching has all but disappeared; fewer than 1,700 secondary school teachers are members of two professional geography associations. It is hardly surprising that Army studies of our recruits reveal "a markedly lower ability to read maps and recognize enemy targets." The Soviet Union, on the other hand, trains over 6,000 specialized secondary school geography teachers each year to conduct a 5-year sequence of compulsory courses in physical, economic, and political geography.

Similarly, all Soviet children are obliged to take 6 years of a foreign language, while fewer than 18% of U.S. public high school students study any foreign language, and fewer than 4 % take more than two years.

Soviet educational requirements sound excessive to Americans in particular. Our 75% high school graduation rate compares unfavorably not only with the USSR's 98%, but with Japan's 90%. The vast majority of our high school students have not studied physics, chemistry, geography, or a foreign language, and have had only a modicum of mathematics. We are virtually alone among the industrialized nations in expecting such minimal accomplishment of our students and our schools, and we are already paying the price.

A recent statement by the president of the Association for Computing Machinery warns, "We, the United States, are losing our lead as world economic leader because our productivity is in decline. Even our strongest area, computers, is now seriously challenged by Japan and Germany. We face severe personnel shortages that threaten our abilities to conduct basic research, to train new scientists, and to educate young people properly in science. As we enter a decade dominated by technology, our primary and secondary school systems continue to turn out young people who are scientifically illiterate, and who will eventually be making decisions governing a technological society. We are in a productivity crisis and the current education system is geared to perpetuating it."

Many undereducated young people are choosing to enter the U.S. Armed Forces as an employer of last resort. There is little need to cite already published data concerning the results of qualification tests and the state of preparedness of our national defense. Suffice it to say that, at a time when advanced and sophisticated science and technology are becoming the keys to our national survival, military training manuals formerly written at an 11th-grade level are now being written at 6th-grade level.

It is a fallacy to suppose that market forces can efficiently and quickly meet our educational needs. It takes 20 years to produce a qualified scientist or engineer, of which the first 10-12 years of training are crucial. If our public schools cannot attract and hold students to the sciences, a generation of future scientists will be lost forever. Yet as virtually every standard measure of academic performance now shows, our educational system is producing fewer and fewer able students in all fields.

It is also producing fewer competent teachers, particularly in mathematics and the sciences. Uncompetitive salaries and stressful -- sometimes even dangerous -- working conditions are largely to blame. But one of the roots of the problem is the widespread public indifference to the quality and status of teachers in the U.S. Such attitudes are inconceivable throughout the rest of the world, from the USSR and Europe to the poorest of the less developed countries. Even with low enrollments in secondary school mathematics courses, a survey of the availability of mathematics teachers indicates that "In some large cities there is a ratio as low as one applicant for 10 vacancies," and "almost 25% of the reported teaching vacancies in mathematics for the 1980-81 school year were filled by teachers from other fields of preparation," that is, by unqualified teachers.

It is indicative of the depth of the Soviets' commitment to a strong educational system (and a main factor in its success) that their top research talent has devoted so much to the improvement of the country's schools. For example, A.N. Kolmogorov, one of the great mathematicians of the century, has for the past 15 years directed the entire school mathematics reform. Not only has he played a decisive role in determining the content of mathematics curricula, but he has also been in the forefront of Soviet research in educational psychology and mathematics instruction. In addition, Kolmogorov is a co-author and editor-in-chief of the three textbooks Geometry (grades 6-8) and the two textbooks Algebra and the Elements of Calculus (grades 9-10). Similarly, Academician I.K. Kikoin, the world-renowned physicist, has been a leader in the Soviet physics school reform.

The famous mathematician I.M. Gel'fand has been working with gifted secondary school students for the past 45 years. The programs for discovery and training of mathematically talented youngsters are an exceptional Soviet educational achievement, and the literature created for the programs has no equal, either in excellence or in scope, anywhere in the world.

The USSR Academy of Sciences itself sets educational policy and directs curriculum development. Even more directly responsible for curriculum reform, revision, and implementation is the USSR Academy of Pedagogical Sciences, the chief Soviet educational research center. No other institution remotely approaches this Academy and its various institutes in size, range of operation, and quality of research. 500 senior research psychologists are associated full-time with its Institute of Educational Psychology, representing the unique school of L.S. Vygotskii and A.R. Luriya. The extraordinary Soviet research in the psychology and methods of learning and teaching mathematics has been applied in the new curriculum.

With a handful of notable exceptions, our own scientific community has not demonstrated a commitment to American pre-college science and mathematics education, in the past 15 years.

Seen in this light, the NSF Directorate for Science and Engineering Education is absolutely indispensable. It was responsible for the post-Sputnik curricular reforms in mathematics and the sciences that helped to produce a new generation of scientists — the youngest members of our current elite. Today the Directorate is the leading agency in the design, development, and implementation of science, mathematics, and engineering education.

The Directorate has become a focal point for innovation. It attracts proposals from the most dedicated educators and works closely with professional associations, and conducts intensive discussions on structural change and curricular reform in our school system.

In February 1981 the Directorate's Division of Science Development and Research held a Project Directors' Meeting on needed improvements in science and technology education for all Americans. Among other organizational changes, I recommended developing a close cooperation among various levels of our educational system, industry, commerce, and labor organizations to institute alternative secondary school programs that will train technicians (e.g., computer programmers), middle-level professionals, and skilled workers.

Among curricular changes, I consider the following indispensable: a) Develop a completely new program for all children covering arithmetic in the first six years of school; b) allow only specialized teachers to teach mathematics and science courses from grade 5 on; c) offer all students in grades 7-9 a new three-year sequence in algebra and a separate three-year sequence in geometry; d) replace the existing one-year courses in physics, chemistry, biology, and geography with sequences of at least two years, but preferably three; e) introduce a new sequence of courses, Technology and Engineering, for all students from grade 7 on, utilizing, wherever possible, modern and well-equipped workshops at nearby enterprises.

In the past few months I have addressed many groups--industrial leaders, educators, scientists--and I have urged them to take an active role in our educational revival. As they approach these problems, many for the first time, they seek the experience and advice of experts. Until now, they have been able to look confidently to the NSF Directorate for assistance. This agency should now be encouraged to develop even further, to coordinate and lead the interaction between an educational system in need of sweeping change and the industrial and social beneficiaries of that change.

It is my firm opinion that the proposed dismantling of the Directorate for Science and Engineering Education would be a profound mistake. It is unique, and its work is more essential today than ever before. Its dissolution would be a crippling blow not only to American science education but also to new manpower training programs.

The economic revitalization of our society and the insurance of a strong defense unequivocally demand a national program to fully develop our human resources, beginning with the reform of our elementary and secondary educational system. If we fail to make this investment, the consequences will be disastrous.

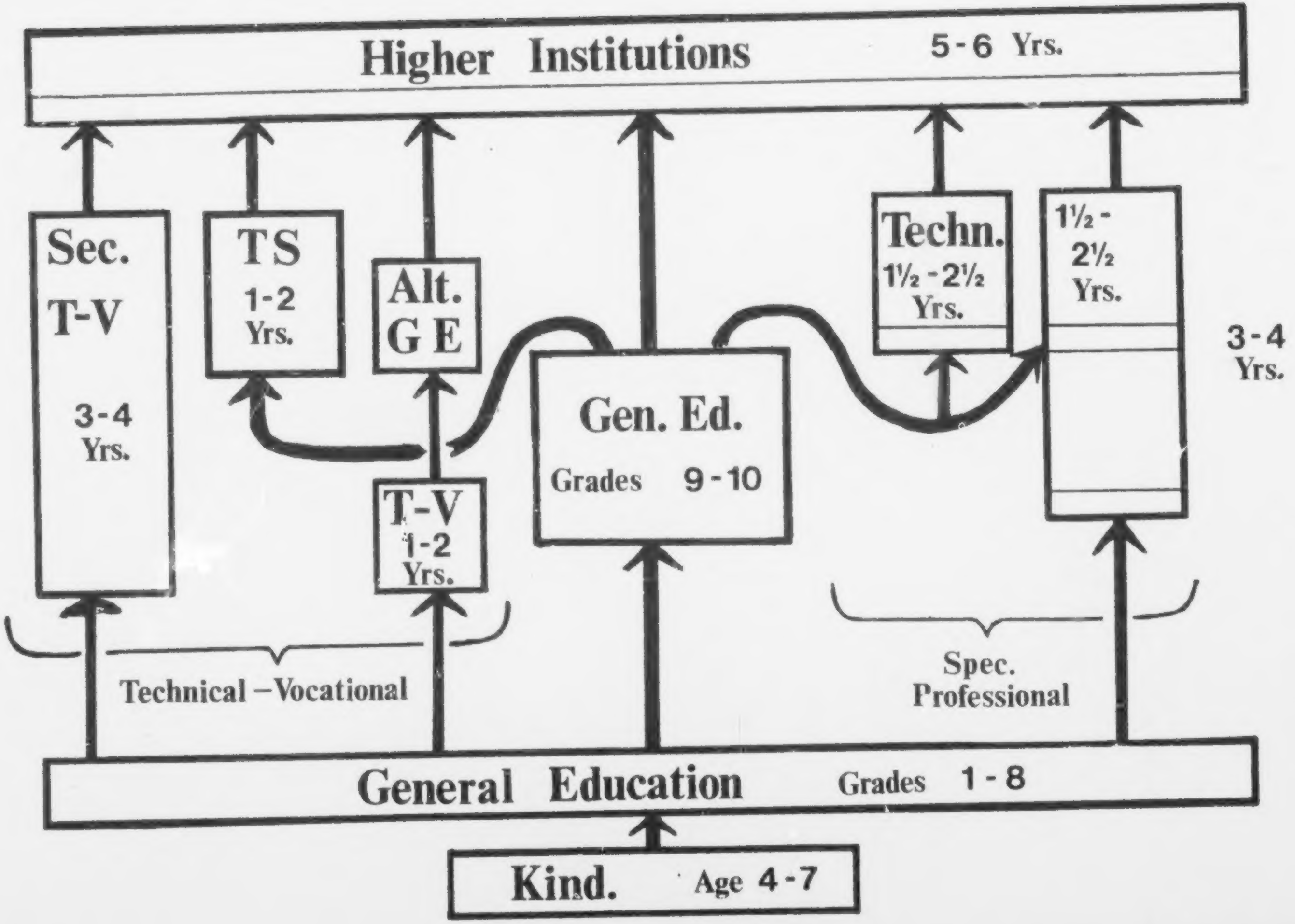
These are challenges that our infatuation with sophisticated management techniques cannot help us meet. Leaders of American industry must recognize, as their foreign competitors already do, that there is no substitute for technological experience and innovation. We must acknowledge that an educated population and a well-trained manpower force are essential to the recovery of our economic leadership and national defense.

This will require, above all, creativity, energy, and wisdom. Our goal should not be to imitate Soviet achievements, methods, or systems, but to conceive whatever new forms of American education are necessary to preserve our freedom.

Fortunately, the general public is showing increased awareness of the close and intricate relation between the state of our educational system and our economic position and national security. Representatives of every segment of society, from leaders of industry to concerned parents, are looking for moral leadership and a nationwide program to solve the present educational crisis. Even more than funding, society needs guidance, purpose, and hope. It will then be ready to make serious commitments to an educational revival.

Our past leaders failed to plan and support the development of new energy sources to make the Nation energy self-sufficient. Today we are living with the real and impending hardships resulting from that lack of preparation. Can we afford to make the same mistake with our invaluable human resources? Our present educational crisis calls for strong leadership, with foresight and patience, but also the ability to act decisively. To give up, to procrastinate, or plan only for the short term would be to mortgage our freedom and our future.

APPENDIX OF TABLES


Higher Institutions
5-6 Yrs.
Sec.
T-V
3-4
Yrs.
TS
1-2
Yrs.
Alt.
G E
T-V
1-2
Yrs.
Gen. Ed.
Grades 9-10
Techn.
1½-2½
Yrs.
1½-
2½
Yrs.
3-4
Yrs.
Technical-Vocational
Spec.
Professional
General Education
Grades 1-8
Kind.
Age 4-7

Curriculum

10-year General Education School

Subject	Number of hours per week by grade 1	2	3	4	5	6	7	8	9	10	Cumulative hours per week
1. Russian language	12	10	10	6	6	4	3	2	—	—	53
2. Literature	—	—	—	2	2	2	2	3	4	3	18
3. Mathematics	6	6	6	6	6	6	6	6	5	5	58
4. History	—	—	—	2	2	2	2	3	4	3	18
5. Soviet state structure & law	—	—	—	—	—	—	—	1	—	—	1
6. Social science	—	—	—	—	—	—	—	—	—	2	2
7. Nature study	—	2	2	2	—	—	—	—	—	—	6
8. Geography	—	—	—	—	2	3	2	2	2	—	11
9. Biology	—	—	—	—	2	2	2	2	1	2	11
10. Physics	—	—	—	—	—	2	2	3	4	5	16
11. Astronomy	—	—	—	—	—	—	—	—	—	1	1
12. Mechanical drawing	—	—	—	—	—	—	1	1	1	—	3
13. Chemistry	—	—	—	—	—	—	2	2	3	3	10
14. Foreign language	—	—	—	—	4	3	3	2	2	2	16
15. Fine art	1	1	1	1	1	1	—	—	—	—	6
16. Singing & music	1	1	1	1	1	1	1	—	—	—	7
17. Physical education	2	2	2	2	2	2	2	2	2	2	20
18. Workshop training	2	2	2	2	2	2	2	2	2	2	20
Total hours of compulsory subjects per week	24	24	24	24	30	30	30	31	30	30	277
19. Elective studies	—	—	—	—	—	—	2	4	6	6	18
TOTAL	24	24	24	24	30	30	32	35	36	36	295

MATHEMATICS IN THE SOVIET 10-YEAR GENERAL EDUCATION SCHOOL

Subject	Hours per week in grade:									
	1	2	3	4	5	6	7	8	9	10
Arithmetic (with intuitive geometry)	6	6	6							
Mathematics (arithmetic, elements of algebra, and geometry)				6	6					
Algebra						4	3/4	4		
Algebra and elements of calculus									3	3
Geometry						2	3/2	2	2	2

EARNED DEGREES IN 1979

TRAINING OF ENGINEERS, TECHNICIANS, AND SKILLED WORKERS

(EXCLUDING ADULT EDUCATION)

in thousands

	USA	USSR	
Doctors in Engineering	2.5	(approx.) 12.0	Candidates in Engineering
Masters	16.2	401.7	Diploma Engineers (Graduates of Higher Technical Institutes)
Bachelors	53.7		[No corresponding degree]
[No corresponding training]		779.6	White-collar Technicians, Graduates of Secondary Specialized Schools (Equivalent of 2-3 years of U.S. Technical Institute)
[No corresponding training]		1,103.0	Skilled Technical Workers, Graduates of Technical Schools and Secondary Technical-Vocational Schools
Associate Degrees in Science and Engineering-Related Curricula (Junior Colleges)	103.7		[No corresponding training]
Graduates of Technical-Vocational High Schools	?	1,234.0	Skilled Workers, Graduates of "mass" Technical-Vocational Schools
Trade and Industrial Programs in High Schools	?		

STATEMENT II OF IZAAK WIRSZUP, PROFESSOR OF MATHEMATICS, UNIVERSITY OF CHICAGO

Since my return from the Science Education Development and Research Division's Project Directors' Meeting convened by Dr. Lipson in February of 1979, I have been much concerned with the findings of the three studies prepared for the National Science Foundation on The Status of Pre-College Science, Mathematics, and Social Studies Educational Practices in U.S. Schools, which were succinctly and cogently reviewed by Dr. Alphonse Buccino at a session of that meeting. The conclusions of these studies have been reinforced by several more recent reports of substantial declines in the performance of American high school students.

For the sake of comparison, I have undertaken research into the present status of Soviet mathematics and science training at the pre-university level. My investigations show conclusively that in the last decade the Soviets have made simultaneous quantitative and qualitative gains without equal in the history of their education, affecting the entire young population. They have dramatically restructured and expanded their multi-track secondary educational system, achieving particular success in the development of institutions that combine general education with the training of skilled labor (technical-vocational schools) and middle-level professionals (secondary specialized schools).

For the 98% of the school-age population that now completes secondary school or its equivalent, the Soviets have introduced science and mathematics curricula whose content and scope place them far ahead of every other nation, including the United States. Their foremost scholars and educators are engaged in improving the school curricula and perfecting teaching methods in a concerted drive to provide mass education of unmatched quality.

I am currently preparing for you a detailed report on these developments; I shall limit myself here to a few observations and illustrations.

In order to appreciate the scale of Soviet educational expansion, it is worth remembering that during the Stalin era the secondary school graduation rate was as low as 4.9%—out of 1000 children entering the first grade in 1930, only 49 completed the tenth grade in 1940. In 1957—the year of Sputnik, and just prior to the Khrushchev reforms of 1958—no more than 1,728,000 students graduated from secondary schools. In June of 1978, however, after years of extraordinary investment and effort culminating in the introduction (1975) of compulsory 10-year schooling, over 5,000,000 students graduated from secondary schools of all types, a success rate of 97.7%. (In the United States, by contrast, nearly 75% of all 17-year-olds—about 3,150,000 students—graduate from high school.)

The major impetus for the tremendous changes that have taken place was a November 10, 1966 resolution adopted by the Central Committee of the Communist Party of the Soviet Union following the Twenty-Third Party Congress. This resolution, entitled "On Measures for Further Improving the Work of the Secondary General Education School," addressed the demands of the "scientific and technological revolution" for a skilled labor force with a broader general education and a higher intellectual level. The resulting measures represented a total commitment to change in Soviet global educational goals and policies in relation to manpower needs, with particular emphasis on the individual's preparation for maximally productive service to the state.

These changes (which the Soviets call an "educational revolution") are tantamount to an educational mobilization of the entire population: an enormous expansion of the manpower training system, and radical curricular reforms brought about by an unexpected turn toward the individual and the development of his ability to do independent, creative work.

Responsibility for the reform in general education schools was assigned to the highest scientific and educational institutions of the Soviet Union--the USSR Academy of Sciences and the USSR Academy of Pedagogical Sciences.

A team of scholars from both Academies, headed by A.N. Kolmogorov, has been responsible since 1964 for the entire school mathematics reform. Kolmogorov, one of the century's great mathematicians, worked in close collaboration with such outstanding scholars and educators as Markushevich, Gnedenko, Boltyanskii, Vilenkin, and Yaglom to set the goals of the new program, design the curriculum in every detail, decide on ways of treating various topics, and write the texts and manuals for students and teachers. (Kolmogorov himself is the co-author and editor-in-chief of three volumes on geometry and two on algebra and calculus.)

The result of their 15-year effort is a program for mathematics instruction that is modern in content, innovative in approach, well-integrated and highly sophisticated. It gives strong emphasis to theoretical foundations and logical rigor as well as to applications. The program culminates in a calculus course taught in grades 9 and 10. Moreover, the extraordinary Soviet research in the psychology and methods of learning and teaching mathematics* has been applied in the new curriculum, which now surpasses in quality, scope, and range of implementation that of any other country.

In only ten years, the Soviet compulsory program for all students covers the equivalent of at least thirteen years of American schooling in arithmetic, algebra and calculus, and does so much more thoroughly and effectively. The American one-year geometry course offers but a very small fraction of the Soviet 10-year geometry curriculum.

We are confronted, for example, with the fact that over 5,000,000 graduates of Soviet secondary educational institutions in 1978 and 1979 have studied calculus for two years, while 105,000 United States high school students have taken a one-year calculus course (1976). This shocking situation is not ameliorated substantially by study at our institutions of higher learning. In the fall of 1975, only 397,000 American college students were enrolled in calculus courses. The majority of Soviet students at institutions of higher learning are studying engineering or science-oriented disciplines, and more than half of the 1,000,000 entering higher education each year have intensive training in mathematics, starting with a comprehensive course in calculus.

Still another consequence of the 1966 resolution was the emergence of elective studies in various school subjects. In addition to the compulsory school mathematics curriculum, which accounts for 6 hours per week in each of grades 1-8 and 5 hours in grades 9 and 10 (a total of more than 2000 class hours over ten years), over 1.6 million students in grades 7-10 participated in elective studies in mathematics during 1973. These studies, which extend and deepen the compulsory curriculum, were established primarily to foster habits of independent and creative work.

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*The NSF Survey of Recent East European Mathematical Literature at The University of Chicago has published fifteen volumes of adapted translations of Soviet research in this area (please see enclosure) and is currently preparing twenty-five new volumes for publication.

In addition, hundreds of thousands of youngsters take part in an exceptional range of extracurricular activities—mathematics clubs, circles, and olympiads—or study in unique secondary schools specializing in mathematics and physics—all designed to discover mathematical talent and to train it from the earliest possible age. These programs have been developed and refined by world-famous mathematicians such as I.M. Gel'fand, A.N. Kolmogorov, M.A. Lavrent'ev, and S.L. Sobolev over some 45 years and have proved immensely successful. The programs themselves and the vast and original literature used in conducting them have no equal in the West.*

It is quite evident that the successful Soviet experiences and achievements in mathematics and mathematics education are being applied with extraordinary fervor and commitment to the closely related areas of the computer sciences. The Soviets look upon automation of production and management as a key weapon for overcoming the inefficiency other aspects of their system impose on the economy.

Obviously, great difficulties could have been expected for the Kolmogorov school mathematics curriculum. It is clearly far ahead of any offered on a mass scale—an exceedingly innovative program in a country where the educational traditions are extremely strong, a program accomplishing what is still considered unattainable here: teaching two years of calculus to the entire young generation of a nation of over 260 million. In addition, all youngsters are required to complete five years of physics (including, for example, an introduction to Einstein's special theory of relativity), and four years of chemistry (including a full year of organic chemistry). These are compulsory school programs of the highest quality, which like the mathematics program have been prepared by renowned scientists (Academicians I.K. Kikoin and Ya.B. Zel'dovich) and introduced after years of experimentation. Difficulties were perhaps inevitable if one remembers that this radical school reform coincided with the enforcement of compulsory secondary schooling and the accompanying explosion in the school population. For example, over a fifteen-year period (1960-1975) the enrollment in grades 9-10 (11) has increased more than four times, from 2.6 million to 10.8 million in all types of general education schools, and from 1.5 million to 6.2 million in the general-education day schools.

The new mathematics program, especially in combination with demanding science courses, has in many respects overburdened the Soviet educational system: students have been overworked, many teachers have been exposed to nearly insurmountable hardships, and parents have been dissatisfied. The program exposed and aggravated the differences in cultural levels and educational standards existing, first, between metropolitan and rural areas and, second, between the western Soviet Union and the eastern (Asian) republics, at a time when authorities were priding themselves on narrowing these gaps. The problems encountered in various school programs prompted a December, 1977 resolution of the CPSU Central Committee ordering a review and revision of all school curricula, and of mathematics in particular.

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*The University of Chicago NSF Survey has published 42 books (translations from the Russian) in this type of mathematical literature (please see enclosure).

This resolution initiated sharp public discussion among the foremost Soviet mathematicians, a continuing polemic that has caused an open split in the USSR Academy of Sciences. All the mathematicians praise the inclusion of calculus in the compulsory school mathematics program and do not question the range of the curriculum. But Kolmogorov's modern approach and rigor have been attacked by Academicians Vinogradov (March, 1979), Pontryagin, Tikhonov, and Vladimirov (May, 1979), all of whom advocate a return to more traditional methods. The defense of the tremendous achievements of Kolmogorov's curriculum and its contributions--particularly from the perspective of the manpower needs of the scientific and technological revolution--has been taken up (July, 1979) by Academicians S.L. Sobolev and L.V. Kantorovich, the famous mathematical economist and Nobel Prize winner.

Although disagreements will persist and discussions continue, I do not doubt that the Soviets will overcome most of the obstacles. The Communist Party and the government are determined to adopt the highest possible educational standards and maintain the scale of mobilization they have recently achieved. The individual youngster, who is earnest, well-disciplined and intensely motivated, will pursue maximum education and training in spite of the dislocations involved. Not only is it the main criterion for success in a society that has become increasingly compartmentalized by educational achievement, it is practically the only safe avenue to a more comfortable standard of living under Soviet conditions.

The persistent elitism of the Soviet educational system can be illustrated by data on admissions to various levels of schools in 1977:

After demanding competitive examinations, 1,017,000 persons were admitted to institutions of higher learning, of whom 613,000 entered day-session departments. Only the top 9-10% of the 5 million secondary school graduates were admitted to day sessions of higher institutions.

At the next level, 1,430,000 students gained admission, again based on competitive examinations, to the secondary specialized schools (primarily tekhnikums), which train middle-level professionals and white-collar technicians. Of these, 925,000 were admitted to the day-session schools, predominantly new graduates of the 8-year and 10-year general-education schools. The Soviet target is to have nearly one-fifth of its youngsters in a secondary specialized school.*

The remaining graduates of the 10-year schools (well over 70%), either go directly to work in various branches of the Soviet economy at the lowest qualification and salary rank or enter the technical-vocational school system, which trains skilled workers. In this case, they are assured a higher rank and an opportunity for more rapid job advancement. The young generation is increasingly obliged to follow the road of technical-vocational schooling, and the government's goal is to provide such training for 45-46% of Soviet youth.

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*The adjective "secondary" here is an anachronism. These schools with 3-4-year programs, although designed mainly for graduates of the 8-year school, actually represent a much higher level. An examination of curricula and of text materials used in some tekhnikums indicates that with regard to professional-technical and science-mathematics content, their programs correspond to between 2 and 3 years at U.S. technical institutes or colleges.

The Soviets' current educational mobilization is characterized by intensive investment at all levels, with particular emphasis on the various types of secondary schooling which affect the entire workforce.

The system of technical-vocational schools has more than tripled enrollments since 1960, from 1,064,000 to 3,681,000 in 1977. The most modern and advanced of them, the secondary technical-vocational schools (3-4 years), offer both general education and technical training: 71 started operation in 1966, and have increased to 3,700 schools in 1979, with an enrollment of over 1,750,000. The technical-vocational system also includes the post-secondary technical schools (1-2 years which show similar growth: 364 schools with 210,500 students in 19[illegible], 1,000 schools with some 1,000,000 students in 1978 (projected admissions to these schools for 1980 will reach 800,000).

The long-established secondary specialized schools have also expanded; enrollment rose from 2,059,500 in 1960 to 4,662,000 in 1977-78. Similarly, enrollment in institutions of higher learning more than doubled in the period 1960-1977, from 2,396,000 to 5,037,000. (In 1977, 752,000 persons graduated from institutions of higher learning with training corresponding to our master's degree.)

In addition, over 36 million people learned new professions or improved their qualifications in 1977-78, and millions more studied in various establishments for continuing education.

Returns on this educational expansion are already impressive, and they have only begun. During the Ninth Five-Year Plan (1971-75) the technical-vocational schools alone trained some 9,500,000 skilled workers, a figure projected to reach 11,000,000 in the Tenth Five-Year Plan (1976-1980). (2,119,000 skilled workers graduated from these schools in 1976.)

In 1977, the secondary specialized system produced 1,185,800 graduates, some 70% of whom became professionals in engineering, agriculture, and management.

It follows that some 3 million skilled workers and trained middle-level technicians enter the Soviet economy each year. Their high educational and technical level promises to accommodate manpower needs, both industrial and military, by turning out more versatile and efficient workers for high technology production. This intensive effort is particularly important in view of the impending serious labor shortage in the European part of the Soviet Union.

In 1978, A.A. Bulgakov, Chairman of the State Committee of the USSR Council of Ministers on Technical-Vocational Training, reported on research showing that graduates of the secondary technical-vocational schools are more productive, efficient, and contributive of improvements to technology and production. They (a) advance in qualification rank twice as fast as workers receiving other forms of vocational training; (b) are more likely to learn new or combined trades (50% within 2-3 years of starting work); (c) participate more readily in rationalization and invention in their work (40%--4 times those without this training); and (d) increase their annual productivity 1.5 times more than their counterparts with different basic training. Bulgakov's data, derived from research at two Leningrad plants, need no further comment:

	Trained:		
	By the individual-and-team method	In schools of tech.-voc. education for a period of 1-1.5 years	After completing technical and secondary tech.-voc. schools
Production unit output per worker	258.7	320.7	529.2
Cost (in rubles) of mechanically producing one gear	.75	.59	.36

The effect of educational expansion on the labor force is reflected in a 1978 statement by M.A. Prokof'ev, Minister of Education of the USSR. He notes that 80% of the workers at the Volga Automobile Plant have completed either higher education, specialized professional, or full secondary education, and the remaining 6,000 workers are studying.

Anyone following the course of the Soviet educational mobilization, which has already achieved great success since its start in 1966, can see that this is just the beginning of a determined drive to achieve scientific and technological supremacy. L.I. Brezhnev has stated bluntly: "The field of scientific and technological progress is today one of the major fronts in the historical battle between the two systems."

* * *

It is extremely difficult to compare educational achievements in two countries as fundamentally different as the Soviet Union and the United States. Still, in order to give some idea of what has happened in the USSR in recent years, I would like to offer a preliminary comparative interpretation of Soviet secondary mathematics and science training in light of the three NSF studies.

Virtually the entire young Soviet population has been receiving 10 years of compulsory schooling in mathematics, comprising:

3 years of arithmetic (grades 1-3)

2 years of arithmetic combined with algebra (grades 4-5)

5 years of algebra (grades 6-10)

10 years of geometry (5 of intuitive geometry in grades 1-5; 3 of semi-rigorous plane geometry in grades 6-8; 2 of semi-rigorous solid geometry in grades 9-10)

2 years of calculus (grades 9-10; in the future calculus may be taught in grade 10 only)

In addition, the curriculum of the Soviet general education school includes:

5 years of physics

4 years of chemistry

1 year of astronomy

5-1/2 years of biology

5 years of geography

3 years of mechanical drawing

10 years of workshop training

All of these courses are compulsory.

The NSF studies on The Status of Pre-College Science, Mathematics, and Social Studies Educational Practices in U.S. Schools reveal the following:

Enrollments in Secondary Mathematics*

(Academic year 1976-1977)

	In thousands	[For orientation only]	
General mathematics 9-12	2563	61.0%	of 4.2 million (grade 9)
Business mathematics 9-12	609	14.5%	
Elementary algebra	2825	67.3%	
Geometry	1900	46.3%	— of 4.1 million (grade 10)
Advanced algebra	1317	35.6%	— of 3.7 million (grade 11)
Advanced senior algebra	225	7.3%	of 3.1 million (grade 12)
Trigonometry	460	14.8%	
Probability and statistics	39	1.3%	
Computer mathematics	153	4.9%	
Calculus	105	3.4%	

1977 enrollment in grades 9-12 = 15.7 million.

The NSF Studies also show that of our high school graduates, 9.1% receive one year of physics, 16.1% one year of chemistry, 45% one year of biology, and 17.3% one year of general science.

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*Over 56% of districts responding to the survey indicated that they required no mathematics courses, or only one, for graduation from high school.

A very rough comparison of the content of mathematics programs in the two countries shows the following:

Mathematics Programs

USA		USSR
8 years of arithmetic 1 year of general mathematics or business mathematics (essentially a review of arithmetic)	corresponds to	the arithmetic and algebra training in Soviet grades 1 through 5 and part of grade 6.
First-year algebra	corresponds to	algebra in grades 6-7 and part of 8.
One year of geometry	corresponds to	geometry in grades 6-7.
Advanced algebra Advanced mathematics Trigonometry	corresponds to	algebra in grades 8-10.

If we bear in mind that the upper 60% of our high school graduates are college-bound, it follows from the NSF Studies that an average college-bound U.S. high school graduate (one in the 70th percentile), or an entrant to one of our military academies, acquires the following background in mathematics and the sciences:

8 years of arithmetic, and possibly 1 year of general mathematics

1 year of basic algebra

1 year of geometry

1 year of advanced algebra or trigonometry

at most, 1 year of chemistry or physics

1 year of biology

Allowing that a U.S. high school graduate has acquired in primary school a science background equivalent to the Soviet--

3 years of natural science (grades 2-4)

3 years of geography (grades 5-7)

2 years of biology (grades 5-6)

1 year of physics (grade 6)

we find that a Soviet secondary school graduate who is university-bound, or entering a military academy, or one who is a middle-level professional or a skilled worker has, in comparison with his American counterpart, on the average, at least (in years, not hours):

1-2 years more training in algebra

8 years more training in geometry

1-2 years more training in calculus

4 years more training in physics

3 years more training in chemistry

3-1/2 years more training in biology

1 year more training in astronomy

3 years more training in mechanical drawing

6-10 years more training in workshop

Many of the Soviets have an additional several years of elective courses and extracurricular activities in mathematics, science, or technical fields in school or at an institution of higher learning and in the Pioneer Houses.

The disparity between the level of training in science and mathematics of an average Soviet skilled worker or military recruit and that of a non-college-bound American high school graduate, an average worker in one of our major industries, or an average member of our All-Volunteer Army* is so great that comparisons are meaningless. Consider, on the one hand, the Soviet's educational background in mathematics and science (presented on page 9), and, on the other, the American's:

8-9 years of arithmetic

1 year of algebra

1 year of geometry, at most

and no high school level physics, chemistry, biology, or astronomy.

The Soviet Union's tremendous investment in human resources, unprecedented achievements in the education of the general population, and immense manpower pool in science and technology will have an immeasurable impact on that country's scientific, industrial and military strength. It is my considered opinion that the recent Soviet educational mobilization, although not as spectacular as the launching of the first Sputnik, poses a formidable challenge to the national security of the United States, one that is far more threatening than any in the past and one that will be much more difficult to meet.

Since the radical changes in and expansion of the whole system of Soviet education originated primarily in demands for manpower training, I have had to substantially extend my studies, originally intended to cover only mathematics and science education. I am glad to have done so, not only for the sake of obtaining a broader perspective, but also because the additional areas I have incorporated are closely related to objectives and directions for research that have gained high priority at the NSF Science Education Directorate—science education for early adolescents, orientation toward science-related careers, technology in science education, and continuing education.

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*In 1977 only 59% of the Army's entrants possessed a high school diploma.

In the near future I shall be sending you a preliminary statement which will provide an overview of my report. I am now working on that statement and on reports in the following six areas:

1. The Soviet Educational System
2. Some Remarks on the Scientific-Technological Revolution and the Educational Revolution (Soviet Interpretations)
3. The Soviet School Mathematics Reform
4. Elective Studies in Soviet Schools
5. Soviet Programs for the Training of the Gifted in Mathematics and the Sciences
6. Soviet Research in the Psychology and Methods of Learning and Teaching Mathematics

Enclosed is a list of additional report areas that are being planned.

The report is based on an extensive literature, involving hundreds of Russian publications--monographs, reference books, textbooks, teacher aids, and periodicals. To obtain a more complete and precise picture of Soviet educational programs, it would be very helpful to examine at least some of their publications. Therefore, I cordially invite you to visit me in Chicago. I would be delighted to receive you here and show you the background materials.

I would very much appreciate your advice and suggestions so that my report could be of greater assistance to you, the National Science Foundation, the Directorate for Science Education, and other government agencies and institutions.

STATEMENT OF DONALD W. McCURDY, RETIRING PRESIDENT, NATIONAL SCIENCE TEACHERS ASSOCIATION

PREPARED STATEMENT

Senator GARN. Donald McCurdy, retiring president of the National Science Teachers Association. We are happy to welcome you here today.

Mr. McCURDY. Thank you, sir.

Mr. Chairman and members of the subcommittee, thank you for this opportunity to testify. I have written testimony which I would request become a part of the record.

Senator GARN. Your entire statement will be placed in the record.

[The statement follows:]

STATEMENT OF DONALD W. McCURDY, NATIONAL SCIENCE TEACHERS ASSOCIATION

The following testimony is submitted to the Subcommittee on HUD-Independent Agencies of the Committee on Appropriations of the United States Senate. The testimony is presented by Donald W. McCurdy, Retiring President of the National Science Teachers Association (NSTA). The NSTA is the largest science education organization in the world. It is concerned with the professional aspects of science education at all levels and for all science disciplines.

Dr. McCurdy is a science educator who has taught chemistry and physics at the college and secondary levels and is currently Professor of Science Education at the University of Nebraska-Lincoln. His education, taken at the University of Missouri, U.C.L.A., and New Mexico Highlands University includes graduate degrees in science and education, so that he has a broad perspective on issues in science and education.

President Reagan's efforts to reduce inflation, if made in the even-handed and fair way he has proposed, deserve the full support of all Americans. However, budget cuts being proposed by the OMB for NSF science education are not consistent with the criteria set by the President nor with his goals for increasing our national productivity. The size and complexity of the federal budget are such that these distortions of Presidential intent are not easily apparent, and since programs like science education are often small, they are not given much time or attention at top administrative levels.

OMB Distortion of NSF Mission

The mission of the National Science Foundation has, since its inception, been to strengthen the scientific research and science and engineering education capabilities of this nation.

> "The Foundation is authorized and directed (1) to initiate and support basic scientific research and programs to strengthen scientific research potential and science education programs at all levels. . ." (NSF Act of 1950).

Since 1967, when the science education component of NSF accounted for about one-third of the entire NSF budget, the science education share has been systematically reduced to its present low level of 7.5%. In the budget proposal made on March 10, 1981, the OMB began a process which would totally eliminate programs of the science education component of NSF, thereby changing the mission of this agency from its dual purposes of strengthening scientific research and science education to just research. About $10 million would be left to be used only to meet commitments already made for Graduate Fellowships.

Lack of Adherence to Budget Reduction Criteria

In setting priorities for budget decisions, the President imposed certain criteria. The NSF was specifically mentioned in Criterion #6:

> "Fiscal restraint must be imposed on programs that are in the national interest but are lower in priority than the national defense and safety net programs. Examples include. . .National Science Foundation. . .which would be allowed to grow at lower rates than planned."

Contrary to this criterion, the budget proposed by OMB would increase support for research in the "hard" sciences and engineering by as much as 22%, while drastically reducing and eventually eliminating the essential science education component. The much larger increases for "hard" science research also violate the President's stated policy that ". . .Federal spending growth must be held to 6% in FY '82. . ."

Lack of Consideration of Alternatives

In the President's speech to the nation, he directed a question to those of us who might be unwilling to accept OMB's budget plans: "Have they an alternative?" But OMB did not provide an opportunity for alternatives, even within agencies where cuts had to be made. In the case of NSF, where the President's criteria did not even call for cuts, and instead allowed growth at a slower rate, no alternative proposals were sought nor considered. Neither the Director of NSF, the National Science Board, nor the Science Education Advisory Committee were given an adequate opportunity to prepare alternative proposals which would meet the OMB's budget requirements. The budget decisions were made entirely at OMB by staff with narrowly limited research expertise and strong biases against NSF support of its science education component. These staff had neither access to appropriate information and input, nor accountability for solving the national crises we face in science and engineering education.

The National Crisis in Science and Engineering Education

The national crisis in science and engineering education exists and has been well documented in numerous surveys and studies. The most recent national examination is presented in a joint National Science Foundation-Department of Education publication, Science and Engineering Education for the 1980's and Beyond (NSF 80-78, October, 1980). Since this publication appeared, numerous other studies have shown that the problems it identified have further intensified.

The shortage of qualified mathematics and science teachers in secondary schools has reached crisis proportions. Population changes and population mobility over the next ten years will make these shortages even more acute in some parts of the country. Engineering faculty at the post-secondary level cannot be found, and this problem will increase in severity. The science content at the secondary level is mismatched to the practical needs of most students, and appropriate alternatives do not exist. Schools and colleges have not been able to keep up with the revolution in modern technology, so that laboratories are hopelessly obsolescent. The erosion of teacher support systems and resources for science and mathematics teaching have led to reductions in the achievement of students in these fields at the very time when such knowledge is essential to work and live in our technological society. The essential role of computers in all aspects of our society is being restrained largely by the severe inadequacies of computer education. Where computers and microprocessors have revolutionized modern industry and business in more productive countries, our educational system has not prepared personnel with the skills and knowledge needed to utilize these innovations.

NSTA recently surveyed the 60,000 secondary school science teachers across the U.S. who teach science as more than half of their load. The returns are not all in, but the results so far are startling:

1. Their average age is 42.
2. About 1/3 majored in fields other than science.
3. Half of them have not taken a college science course in the past 5 years.
4. More than 1/4 of them expect to leave teaching in the near future.

These results simply confirm what other studies and our experience suggested:

Few young people are entering science teaching, others are leaving it, and an aging faculty remain--many of whom are not qualified, and few are upgrading or maintaining their science competencies. Shortages of physics, mathematics, and chemistry teachers appear to be filled mainly by moving unqualified teachers from non-science fields into science.

The President's programs to bring the nation to higher levels of productivity through advanced manufacturing and industrial technology and to improve our defense preparedness through the same advanced technology, are doomed to complete failure if we do not provide the people who must do these jobs with the essential scientific and technological education and training.

A 1982 Science Education Component for NSF

The documented failures and deficiencies in American science education can be attributed in part to the erosion of funding support for science education at NSF over the past fifteen years. While research funding has been increased enormously over this period, science education has been reduced to an almost negligible proportion of the total NSF budget. We now see the unpleasant results of this shortsightedness and negligence. Given the level of support available, the Science Education Directorate has done extraordinarily well in attacking many of the very serious national problems in science education. They have made gains in research on how people learn science, on bringing computers and telecommunications into schools and colleges, in the development of some new practical science curricula, and in providing science to children and the public through innovative broadcast TV programs. Through the Science Education Resources Improvement programs, NSF has helped many schools and colleges keep current with materials, equipment, and curricula. The Science Personnel Improvement programs have maintained an adequate flow of scientists through graduate fellowships. By means of the NSF Chautauqua-Type Short Courses program for college teachers and the Pre-college Teacher Development program, the NSF Science Education Directorate has helped substantial numbers of science teachers improve their competencies in what are probably the two most cost-effective government programs in existence. The Science Education Directorate has used its funds remarkably well, but there simply has not been enough to do the job that was needed.

In recent testimony before the Senate, F. James Rutherford outlined the federal responsibility for science education quite clearly:

> "That federal role has always been concentrated primarily in one agency--the National Science Foundation. While NASA and a few federal agencies and departments, such as Education, Energy and Defense have made small investments from time to time in science and engineering education, only NSF has had a substantial, coherent and sustained presence. Indeed, only NSF has had a Congressional mandate, supported by seven successive administrations, to work toward the strengthening of science education at all levels. This responsibility is explicitly stated in the Act of 1950 creating the NSF and in every subsequent revision; and it is implicit in the Act's requirement that the NSF be responsible for 'the health of basic research,' which, of course, depends in the long run on the quality of science education."
>
> "The country spends over a hundred billion a year on education, the NSF a few million. But that comparison deceives us, for it misses the nature of the agency's special role. The energy of a pilot light or match is also small compared to that of a furnace, but without it there may be no heat."
>
> "The National Science Foundation provides the only leadership there is that can focus attention on problems of science education crucial to the welfare of the nation's citizens. State departments of education and local schools and colleges have no way or no reason to uncover, analyze and disseminate information about national needs in science and technology education."

If the national mandate to reduce federal expenditures is to be met, the science education component of NSF, like the research components, must focus only on problems of high national priority.

In Science Education this can best be done by emphasizing the following areas:

- Upgrading the scientific, mathematical, and technological competencies of teachers at the pre-college level;
- Development of applications-oriented and practical science and mathematics instructional materials for schools and for lower divisions of colleges and universities;
- Helping colleges and universities upgrade laboratory apparatus, including especially microcomputers, microprocessor-based equipment, and other apparatus which form the components of high-technology industry;
- Development of instructional materials to inject the use of computers into essentially all science and math courses, as appropriate, at all levels;
- Provide high-quality, targeted science programming by TV for children and adults to help reduce the widening gap between what is known about science by working scientists and what is known by those who are not scientists, but who must work and live in a technological world;
- Continue the process of research on how people learn science and mathematics;
- Bringing a larger proportion of women, minorities, and handicapped into science and mathematics.

The Director of the National Science Foundation has testified before the House saying in effect that the loss of graduate fellowship programs in the Science Education Directorate poses no serious threat to support for graduate students in science because 90% of those students are supported in research assistantships out of research grants. Since the budget must be cut, and the hard science research components are slated to receive as much as 20% increases in support, it would seem quite reasonable to fund all graduate student support through the research grants. In this way, funds designated for science education can be used for problems of higher national priority. We have proposed a science education budget which reflects these priorities.

Recommended Appropriations for NSF Science Education for 1982

An NSF Science Education appropriation is recommended which would emphasize the areas of highest national priority.

NSF SCIENCE AND ENGINEERING EDUCATION PROGRAMS	1982 Recommended Appropriations (in millions)
Science Education Research and Analysis	
Analysis	
Pre-college Materials and Methodologies	3
Lower-Division College Materials and Methodologies	2
Computers and Telecommunications for Science Instruction	2
Subtotal	7

Research		
Science and Engineering Learning	2	
Mathematics Learning	2	
Subtotal	4	
Total		11
Pre-College Science Education Improvement		
Science Teacher Improvement Programs		
Summer Short Courses (2-5 days)	2	
Summer Institutes (6-9 weeks)	10	
Chautauqua-Type Short Courses	2	
Academic Year Institutes	3	
Conferences and Workshops	2	
Subtotal	19	
Science Resources		
* Model Science Instruction Resource Centers	5	
Subtotal	5	
Total		24
Higher Education Science Improvement		
Science and Engineering Faculty Programs		
Summer Short Courses	2	
Summer Institutes for College Faculty in Lower Divisions of Science and Engineering	3	
Chautauqua-Type Short Courses	4	
Subtotal	9	
Resources for Lower-Division Science Instruction		
Computer Equipment for Science and Engineering Instruction	6	
Science and Engineering Instructional Apparatus	4	
Model Science Instruction Resource Centers	2	
Subtotal	12	
Total		21
** Student Motivation, Enrichment, and Development		
Children's Science through TV, Museums, and Other Public Media	6	
Women, Minorities, and Handicapped in Science	3	
Subtotal	9	
Total		9
TOTAL NSF SCIENCE AND ENGINEERING EDUCATION		65

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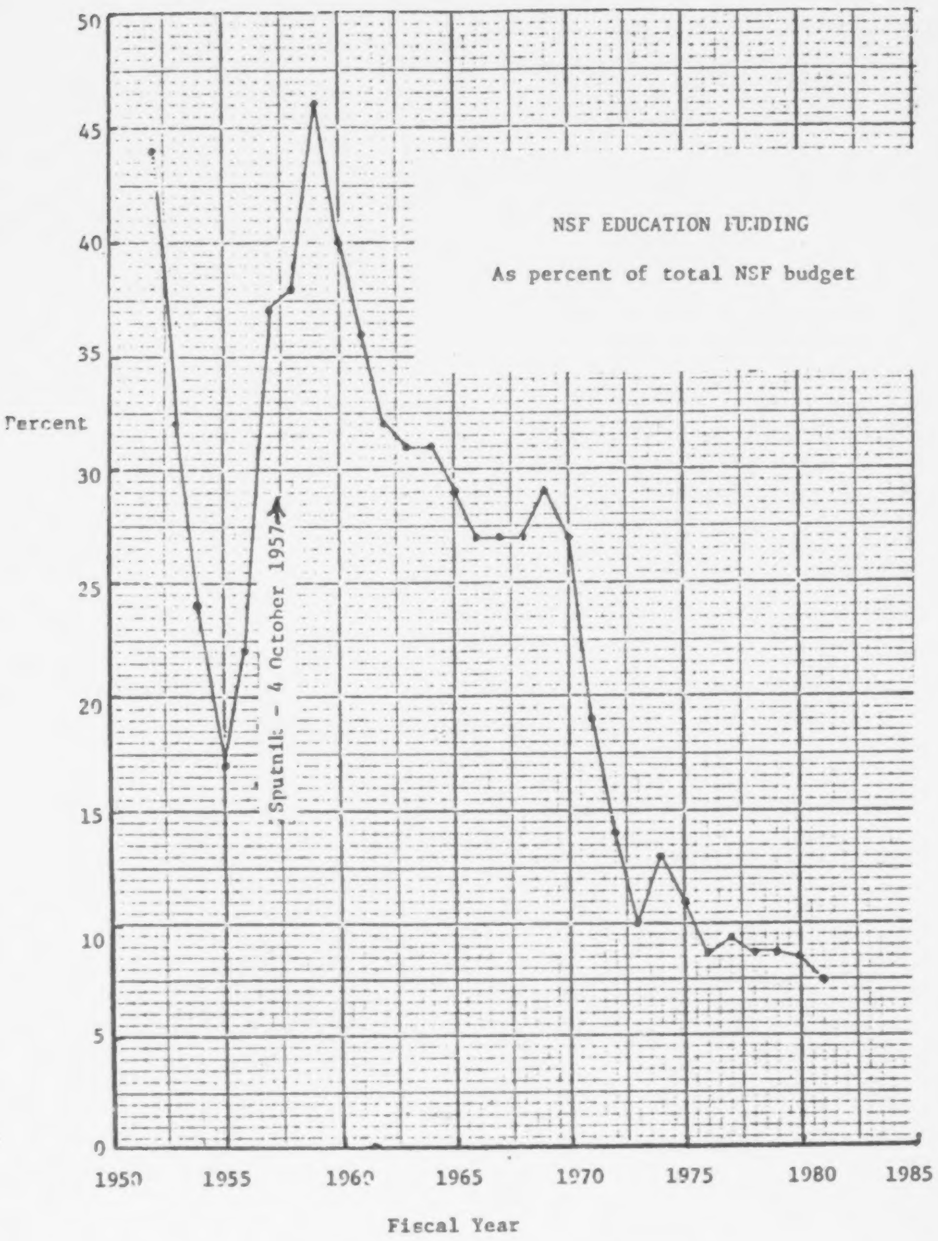
* See attached description from Exeter Conference

** $9.9 million of obligations for current graduate fellowships would be met through funds budgeted for the Research Directorates.



NSF EDUCATION FUNDING

As percent of total NSF budget

Sputnik - 4 October 1957

Excerpt From

The Exeter Conference

ON SECONDARY SCHOOL SCIENCE EDUCATION

June 15-22, 1980

A Response to the Problem

Classroom teachers are not in a realistic position to find and to organize all the resource materials required to carry out the changes we suggest. Nor is it easy to see how they can find time to keep abreast of the developments in their profession, such as new ways of adapting computer-assisted instruction, new insights into the way in which their students learn science, new techniques for producing low-cost apparatus in the face of tightening budgets, availability of tapes, films, slides, and lecturers from local industries or universities. Conventionally these matters have been handled through professional meetings and journals, but these avenues reach only a small and now declining fraction of the profession.

Therefore we propose a national network of Science Resource Centers, patterned partially after the national network of County Extension Offices, that will undertake projects, collect data, and distribute materials to the teachers of the region as needed. The centers may provide short-term training programs, will serve as repositories of information and data, and will provide services as requested by schools, teachers, or students. We see industry and business as being an important part of both the operation and the support of the centers. Materials developed within a local region to meet its own requirements will become part of the catalogue in the national center and made available by computer to any center elsewhere. Thus the resource centers will bring together all available local and national resources to improve and maintain the quality of science education at all levels.

Some of the characteristics of the centers might be as follows:

A. They will be equipped to receive, store, process, and rapidly distribute information in many forms.

B. They will prepare materials for class use. This may be done by teachers in the field who submit material to the center or by members of the center's staff. Materials might include:

   a) case studies which involve students in the interpretation of data and in decision making.

   b) up-to-date data on topics of continuing concern such as economics, statistics, and population data.

   c) printed material on science and society in the United States patterned after the British *Science in Society Project* (Reference: Science in Society Project, Malvern College, Malvern, Worcestershire, U.K., John Lewis, Director. Also available after January 1, 1981, from Heineman Education Books, Exeter, N.H. 03833).

   d) programs and apparatus similar to that developed by the National Science Foundation and modified for local use by the Fairfax County Science Materials Center (Reference: Fairtax County Public Schools, 5920 Summers Lane, Falls Church, Va. 22041, Douglas Lapp, Director).

C. They will routinely distribute inexpensive fliers outlining data, developments, resources, bibliographies, and other information of current interest.

D. They will provide instruction through workshops, evening or weekend courses, summer programs, or the use of visiting instructors from the region. The centers should also serve as meeting grounds for the profession. The Illinois State Physics Project might serve as a model for this aspect of the regional center's work.

E. They will serve as a clearing house to aid teachers who wish to share their technical expertise through association with industry, universities, local civic groups, etc. Teachers need resources, but they are themselves a resource that communities can often utilize more effectively.

F. The staffs should consist of directors and assistants as determined by the schools and the needs of the region. It is important that the assistants be teachers representing various grade levels and serving on a rotating basis.

There are at least three existing systems which may serve as useful models:

1. County Extension Service. The science center network we propose is analogous to the county extension service network which responds to needs of the farm community.

2. National medical network. In this network developed by the medical profession, extensive use is made of closed circuit television, computer discs, etc., to disseminate both technical information and techniques.

3. Hot line. This network is the "Media Resource Service" of the Scientists' Institute for Public Information.

NATIONAL SCIENCE FOUNDATION'S OTHER MISSION

[Science magazine, Apr. 3, 1981]

Science education has long been the "poor cousin" of the research component at the National Science Foundation (NSF). But in addition to its goal of supporting scientific research, the foundation has another major mission: a statutory obligation to initiate and support "science education programs at all levels."

On 10 March 1981, the Office of Management and Budget proposed that the science education mission of NSF be totally eliminated. This would mean the loss of some 25 programs, which include:

- All of the graduate and postgraduate fellowships. The $9.9 million left in the directorate will be used only to meet existing fellowship commitments.
- All of the science education research activities, including efforts to learn more about how science and mathematics are learned. Recent breakthroughs involving processes of reasoning and mental development cannot be pursued.
- All development of new materials, methods, and curricula in science, including important efforts to link the microcomputer and video disk for science instruction.
- All faculty improvement programs, including all fellowships, the very efficient precollege teacher development programs, and the foundation's best and least expensive method of updating college science faculty: the Chautauqua-type Short Courses program.
- All programs aimed at bringing minorities, women, and handicapped persons into scientific careers.
- All undergraduate institutional support programs, including Comprehensive Assistance to Undergraduate Science Education (CAUSE), Local Course Improvement (LOCI), and Instructional Scientific Equipment (ISEP). These three programs are especially important to the 4-year colleges that produce Ph.D. candidates for universities.
- All student programs, including undergraduate research participation and the student science training program. These programs have served to identify and encourage prospective scientists early in their careers.
- All of the informal science programs designed for the public and for children, including support for science museums and popular television programs such as Nova and 3-2-1 Contact.

The cuts will start in 1981, with a severe reduction from the $81 million that had been approved to $65 million. In 1982 the reduction will be from the $112 million proposed by the foundation to the $9.9-million phase-out level.

A recent NSF–Department of Education study, *Science and Engineering Education for the 1980's and Beyond*, identifies the elements of a national crisis in science and engineering education. Shortages of qualified mathematics and science teachers in secondary schools have become critical. Population changes and population mobility over the next 10 years will make these shortages even more acute in some parts of the country. It is

already difficult to find engineering faculty at the postsecondary level, and this problem will soon become worse.

The science content at the secondary school level is mismatched to the practical needs of most students, and appropriate alternatives do not exist. Schools and colleges have not been able to keep up with the revolution in technology, so that laboratories are hopelessly obsolescent. Erosion of teacher support systems and resources for science and mathematics teaching has led to lowered student achievement in these fields at the very time when such knowledge is essential to those who work and live in our technological society.

The scientific research community must not permit its ties to science education to be cut, and possibly lose the support science education has always generously given to research All of us in science must prevent the destruction of the pipeline that supplies our future scientific talent.

—BILL G. ALDRIDGE, *Executive Director, National Science Teachers Association, 1742 Connecticut Avenue, NW, Washington, D.C. 20009*

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CRITICAL WEEK IN GOVERNMENT

Senator GARN. Before you continue, may I just say in reference to the other members of the subcommittee, that this is an especially critical week for the Government. All of the funding stops for every department of the Federal Government on Friday night at midnight, unless the conference report on the supplemental/rescission bill is completed. So there are many conferences, meetings, and hearings going on. So I want to apologize, but I guess more than apologize, explain why no other members of the subcommittee are here this morning. It has been an especially busy week for everyone.

Mr. McCURDY. Thank you.

I would like to call to your attention the fact that I am the retiring president. Sara Beth Klein, who is the current president of the association, and Bill Aldridge, our executive director, are in the audience.

I want to summarize my written testimony and make some personal observations.

STATEMENT SUMMARIZED

As part of my duties as president of the National Science Teachers Association, I spent most of this year traveling through 44 States, attending about 17 State conventions of science teachers, visiting approximately 100 schools, and talking to literally hundreds of science teachers around the country. So I have observed some very significant problems firsthand that I would like to relate to you this morning.

First, there is a general attitude in schools around the country that science is not a basic subject. The legislation and the debate about the basics has left science out in the cold. This disregard for science education, I think, is demonstrated by a recent decision of the National Assessment for Educational Progress to eliminate science from the next round of testing.

Related to this problem is a lack of science in the elementary schools in this country. As I traveled around this past year, I found very few exemplary elementary science programs. A recent NSF research report indicates that only 22 percent of the elementary teachers in this country feel confident to teach science. Obviously, this means that four out of five do not feel comfortable and, therefore, tend to omit it from their teaching.

There is also a lack of science, particularly physical science, in the general education of students at the high school level. I think it is common knowledge that approximately 16 percent of our high school students take physics and less than a third take chemistry. Therefore, for the majority of the students, their last physical science is taken at the junior high school level.

Two-thirds of all of the States require only 1 year of science for high school graduation, as I think you pointed out earlier, Mr. Chairman. That generally turns out to be biology. Yet, many of the problems we face in our society have their roots in the physical sciences.

Curriculum development in the area of relating science to the needs of society and to the personal needs of adolescence is a high-priority need. Related to these problems is a critical shortage of qualified science teachers that is developing, particularly in the physical sciences.

DIRE NEED FOR SCIENCE TEACHERS

Recently I was in Mesa, Ariz., a very modern high school with excellent facilities, a very desirable place to teach. This particular district has an average of about 200 applications for every position. This year they had a physics vacancy. They had exactly two applications for that position, one of whom was qualified.

Last year there were less than 20 science teachers prepared in the entire State of Connecticut. More than 50 percent of Arizona science teachers have to be imported from other States. My own State of Nebraska is now recruiting science and mathematics teachers from Australia. Two urban schools that I visited this fall are now paying a bonus to science teachers in order to attract and retain qualified teachers.

These problems, of course, are not just my observation. They have been clearly documented in the report, "Science and Engineering Education for the 1980's and Beyond," prepared by NSF and the Department of Education, as well as a number of other studies. This report states:

> There has been, over the past 15 years or so, a shrinking of our national commitment to excellence and international primacy in science, mathematics, and technology.

The National Science Teachers Association has just recently surveyed the 16,000 secondary schools' science teachers across the country who teach as much or more than half of their loads in science. The returns are not all in, but the results so far are startling.

First, their average age is 42. About one-third of them have majored in fields other than science. Half of them have not taken a college science course in the last 5 years. More than a quarter of them expect to leave teaching in the near future. These results, I think, simply confirm other studies and our own experience.

Few young people are entering science teaching. Others are leaving it. And an aging faculty is remaining, many of whom are not qualified, and few are upgrading or maintaining their science competence.

Shortages of physics, mathematics, and chemistry teachers appear to be filled mainly by moving unqualified teachers from nonscience fields into science.

There is a critical need for institutes and workshops to retrain these groups.

I recognize that the Federal Government cannot solve all of these problems alone. But with limited funds, the science education directorate has provided a catalytic function that has produced results far beyond what would be reasonably expected from its relatively small proportion of the NSF budget. It simply has not had the priority that it deserves.

I am in wholehearted agreement, personally, with the President's goal to balance the budget. But I believe that this must be accomplished fairly and equitably, based on sound criteria in the national interest.

OMB CUTS CAUSE FOR CONCERN

The association that I represent is deeply concerned about the proposed OMB cuts for NSF that would essentially eliminate one of the two major functions of this agency. We believe that if these cuts are allowed to get through Congress, that it will have a very dramatic effect on the quality of science education in the long run. A strong, basic research program funded by NSF is absolutely essential, but a viable research program is based on sound and healthy elementary, secondary, and undergraduate programs. We cannot starve the fundamental basic science and mathematics education at the lower levels and expect research ultimately to thrive at the top.

These problems that I have cited are symptomatic of past neglect. We are now facing critical shortages of engineers and technically trained people for business, industry, and the military. This is a national problem that must be addressed at the Federal level.

The Director of the National Science Foundation has recently testified before the House saying that, in effect, the loss of graduate fellowship programs in the science education directorate poses no serious threat to support for graduate students in science because 90 percent of those students are supported in research assistanceships out of research grants.

Since the budget must be cut and the hard science research components are slated to receive as much as 20 percent increases, it would seem quite reasonable to fund all graduate student support through research grants. In this way funds designated for science education can be used for problems of higher national priority. We have proposed a science education budget which reflects these priorities in my written testimony.

I want to call your attention to the graph in my written testimony that clearly demonstrates the decline in NSF's support for science education. This roughly parallels the decline in science test scores that is demonstrated and documented in National Assessment reports and other sources.

To prevent further erosion of science education support by NSF, I would ask that the Congress instruct the Foundation to budget science education beginning in 1983 at not less than 10 percent of the overall NSF budget, with gradual percentage increments each year until the proportion attains a reasonable level of not less than 25 percent. With a cap on the budget, I believe that you must move some funds from research to science education.

Recently it was my privilege to attend the awards at a banquet in honor of the 40 high school winners of the Westinghouse Talent Search. This was a vivid reminder to me that the most valuable resource we have is our bright young people. Unfortunately, they don't have many spokesmen to testify on their behalf.

There are a lot of hard-working science teachers doing an excellent job. These students are evidence of that fact. I implore you to remember these productive young people when you consider the budget for science, mathematics, and science education. Even though science education is a minuscule part of the Federal budget, you must not let it fall through the cracks in the budget-cutting process.

We don't expect the Federal Government to do it all. Let me assure you that the National Science Teachers Association and other professional associations will be working aggressively to solve the problems of science education in this country. If I had time, I would like to enumerate some of them for you. But, unfortunately, we don't have the time.

Thank you for this opportunity to express my concerns.

Senator GARN. Thank you. I appreciate your testimony very much and your willingness to appear here today.

STATEMENT OF HON. JOHN CHAFEE, U.S. SENATOR FROM RHODE ISLAND

Senator GARN. Next I would like to call on Mrs. Patricia Hendel, vice president of the board of trustees, and Mr. Ken Payne, secretary/treasurer of the New England Innovation Group, and my colleague, Senator Chafee, to introduce both of you.

Senator CHAFEE. Thank you very much, Mr. Chairman.

I appreciate a great deal your giving me this opportunity to introduce these folks who are associated with the New England Innovation Group.

First, Mr. Chairman, I want to say that I have never seen a committee that operated on such clocklike precision as this. They said I would be introducing these folks at 10:20.

Senator GARN. We are a little bit behind today, but yesterday we were ahead of schedule.

Senator CHAFEE. Well, I am not going to quarrel with 10:21.

Senator GARN. John, you should know how I have been running the Banking Committee.

Senator CHAFEE. So, Mr. Chairman, thank you again.

It is my pleasure, Mr. Chairman, to introduce three people who are associated with Rhode Island and five other New England States through their work with the New England Innovation Group.

Mr. Cox, who is appearing before you this morning, founded the New England Innovation Group 6 years ago and currently serves as its executive director. Mr. Cox has had wide experience in the public and private sector and is a former area administrator and policy coordinator for the EDA.

The New England Innovation Group is the first multi-State innovation group in the country. It brings together local governments in order to meet their technological and economic needs. Let me just give an example of actually what they do.

In Rhode Island, we had a problem concerned with the jewelry industry, which is a very, very important industry as far as we are concerned. They had a problem with the hazardous wastes disposal from their electroplating. When they put their jewelry into the tanks to get it electroplated, the wastes that result are hazardous.

The jewelry industry was provided with access to technical resources from the university and from the private sector. This was all worked out by this New England Innovation Group, which also provided assistance to a number of our communities with help in energy management and conservation techniques. In other words, this is a group that is devoted to the fruitful application of science and technology.

Also appearing before you this morning is Miss Pat Hendel, who is vice president of the New England Innovation Group. She is a former State legislator. She is vice president of the Thames River Economic Development Corp. in Connecticut. That is the Connecticut side of the House.

First you will be hearing from Mr. Ken Payne, who is the secretary-treasurer of the New England Innovation Group and also serves as executive director of the Rhode Island League of Cities and Towns. I know how active, Mr. Chairman, you have been in organizations dealing with cities and towns. So we are delighted to have Mr. Payne here to start off.

Again, thank you very much.

Senator GARN. Thank you. I appreciate your willingness to come and introduce your friends from New Enland.

Senator CHAFEE. Mr. Payne.

STATEMENT OF KEN PAYNE, SECRETARY-TREASURER, NEW ENGLAND INNOVATION GROUP

Mr. PAYNE. Thank you for the introduction, Senator Chafee.

Chairman Garn, I have a prepared statement to supplement the remarks and the prepared statement of Robert Cox, executive director of the New England Innovation Group. What that statement does is, it puts what I think the major points are in my own terms and really presents the basic concepts as I see them.

I am not only executive director of the League of Cities and Towns, but I am also the principal investigator of the New England Innovation Group and a director of the National League of Cities and of the New England Municipal Center.

SELF-GOVERNMENT PROMOTED

I believe that cities and towns support the current movement to decentralize the administration and delivery of Government services. Cities and towns believe in local self-government, the capacity for genuine local action to address community needs. General revenue sharing is by far the most important and popular Federal program for cities and towns. It makes some of the revenue-generating capacity of the Federal Government available to cities and towns.

Research and development is another substantial Federal capacity, one which is almost entirely lacking at the local government level. They, typically, do not have scientists and technicians in an aggregate number to conduct research and development activities.

Local government problems, however, are not the primary focus of Federal research. However, federally funded research and the expertise developed to undertake that research can be tremendously beneficial to cities and towns. The utilization of that research in the secondary, local government market results in a higher return on the public investment for the research.

In my experience, the National Science Foundation intergovernmental science program supports three things:

First, science and technology transfer, the matching of technical problems at the local government level with technical capacities the Federal Government has invested in.

Second, adaptive engineering, where they explore uses of science and technology to solve and be useful in solving local government problems.

Third, innovation research. We are really coming to understand the innovation process much better than we did before.

In that regard, I think we have discovered that cities and towns are willing to undertake the support of science and technology at a specific level. That is at the implementation stage. They do not investigate problems in a pure sense. What happens is once something is fairly proven technologically, they are very interested in using it, so that the function of the National Science Foundation's program, for which in 1982 an appropriation of $5 million is urged, is to comb the Federal Establishment, locate useful science and technology, so it can be put into that frame of reference where then local governments can move to pick up its utilization and implementation.

Thank you very much, Senator.

Senator GARN. Thank you. Mrs. Hendel?

STATEMENT OF PATRICIA HENDEL, VICE PRESIDENT OF BOARD OF TRUSTEES, NEW ENGLAND INNOVATION GROUP

Ms. HENDEL. Senator Garn, we are grateful for the opportunity to speak before you this morning. As Mr. Payne has said, we have submitted a statement prepared by Robert Cox to your subcommittee. I believe you have that in the record. I wish, though, to comment very briefly on the written statement.

Speaking as a former State legislator, may I say it is the application of the techniques developed by science and technology to public sector problems that has captured my imagination and, hence, my interest in this innovation process.

KEY CATALYTIC ROLE FOR NSF

We quote in our statement to you Dr. Allen Bromley, who is president of the American Association for the Advancement of Science. He says, and I quote:

> National Science Foundation has played a key catalytic role in bringing about greater and more effective use of science and technology by State and local governments.

NSF has indeed played more than a catalytic role. It has been the only source of public sector venture capital made available to State and local governments.

The allocation of National Science Foundation funds by a group such as the New England Innovation Group is provided on a needs basis. As an officer of the New England Group and a director of the National Innovation Network, I can assure you that this important contribution by the National Science Foundation is in no way viewed as Federal interference. We believe the elimination of the intergovernmental science program would subvert the intent of the Stevens and Wydler Technology Innovation Act of 1980 and the earlier Science and Technology Policy Act of 1976.

Although we, of course, support this legitimate Federal role, we and several other innovation groups around the Nation are actively searching for non-Federal funding. As an example, the New England Innovation Group has played an important role in my State of Connecticut by supporting, in cooperation with the Connecticut Office of Policy and Management, a financial management specialist to help local governments adapt innovative management techniques. NEIG at this time is aiding Connecticut in seeking private funding for this needed assistance in both public accounting and banking professions. We have found, as Mr. Payne indicated to you, that communities are often willing to pay for specific projects, but we continually explore ways of funding our general operating costs. We are even looking into memberships, although we look at those with caution because we would not want to limit benefits to communities based only on their ability to pay membership fees.

We agree that more private support for research and development is desirable, but we object strongly to the elimination of the Federal role without any transition funding.

I want to conclude, Senator, and suggest that National Science Foundation's investment in the New England Innovation Group amounts to about 1 cent a year for each New England citizen. That is a modest amount of financial assistance, and it has really significantly improved the delivery of public services by our local and State governments. In fact, if it is appropriate, we would like to suggest that your subcommittee hold oversight hearings—and, of course, in this calendar year—on the innovation process and help in evaluating the effectiveness of these programs. For the time being, though, we would urge the appropriation of $5 million for fiscal year 1982 of the National Science Foundation intergovernmental science program.

If we can answer any questions, we would be happy to try. Thank you, Mr. Chairman.

Senator GARN. Thank you very much, both of you.

Mr. Payne, I do know something about cities and towns. At one time I was president of the Utah League of Cities and Towns. While it seems like it was 40 or 50 years ago, it was only 9 years ago.

Thank you both very much.

[The statement follows:]

STATEMENT OF ROBERT A. COX, EXECUTIVE DIRECTOR, NEW ENGLAND INNOVATION GROUP

> "NSF has played a key catalytic role in bringing about greater and more effective use of science and technology by state and local governments. Such activities have not been seen as federal 'interference'; rather, they are viewed by those affected as supportive, imaginative, and important to strengthening state and local government. To eliminate these programs without any transition would destroy these fledgling capabilities which I might add took nearly seventy years to devise in the Agricultural Extension Service."
>
> Dr. Allen Bromley, President
> American Association for the Advancement
> of Science - March 1981

NEIG representatives appear before this Senate Subcommittee to support Dr. Bromley's statement and to urge the appropriation of not less than $5 million for FY1982 for the National Science Foundation's Intergovernmental Science Program.

Nearly four months ago OMB Director Stockman's February embargo and recision actions effectively terminated the National Science Foundation's Intergovernmental Science Program. NEIG, like other members of the National Innovation Network, is still wobbling from the blow but since neither OMB nor NSF have told us to disband our technology utilization efforts we are prepared to state our case for continued NSF appropriations before this Senate Subcommittee.

NEIG, having been initiated in 1975, is now the oldest multi-state innovation group in continuous service in the country. During that time we have demonstrated through communications and practical technology utilizations projects how local and state governments can improve operations, reduce costs, and increase productivity in the delivery of essential public services. In addition to the excellent peer reviews NEIG's program has received when seeking NSF support, the House Committee on Science and Technology examined our activities and issued a report in November 1978 citing NEIG as a success. Obviously NEIG's Trustees and staff appreciate this type of praise, but we would be even more pleased if we thought NSF, OMB and the Congress seriously considered the findings and recommendations of our applied research in formulating policy and budgets for federal participation in intergovernmental science and public technology activities.

NEIG is particularly disappointed in Mr. Stockman's actions since they are directly counter to the evidence developed by members of the National Innovation Network concerning the nature of the federal role in fostering the greater application of federally funded research in local and state governments. Since the Reagan Administration and the Congress are proposing more incentives -- called tax credits -- to stimulate private sector research and development, it seems to me that similar incentives are justified to encourage the utilization of this R&D by state and local governments. In fact, most of us associated with the field of technology utilization applauded when the Congress enacted the Stevenson-Wydler Technology Innovation Act of 1980. Organizations ranging from the National League of Cities to the American Association for the Advancement of Science sense a "new beginning" in our national quest to make more effective use of science and technology in addressing problems at all levels of government.

Unfortunately, that optimism has been clouded by Mr. Stockman's actions last February. In NEIG's case, programs which had their origins four years ago, such as our energy management building diagnostics program, are throttled down or abandoned. Nationally, the communications/information exchange network developed over the last several years through NSF, NEIG and Federal Laboratory Consortium cooperation is being dismantled. This latter situation seems particularly tragic to me since on January 13 representatives of all the national and regional innovation groups initiated discussions witn the private sector which when concluded would have resulted in a dynamic public-private communications partnership. Now, without NSF participation and funding the great promise of January has turned to dismay in June.

In presenting this statement I do not mean to convey that NEIG will cease to operate without NSF funding. As long as I remain as NEIG's Director, we will continue to "transform research and development into marketable products, processes and services". However, what will change is NEIG's style of operation. Without NSF support, or similar public sector venture capital, NEIG and the other National Innovation Network members must place priority on marketing innovations to those who can pay rather than serving as a mechanism for the intergovernmental exchange of information and assistance in the utilization of federally funded research. This change in focus appears to me to be inconsistent with the objectives of the National Science and Technology Policy, Organization and Priorities Act of 1976 and the Intergovernmental Science Program managed by NSF. Based on over five years of practicing the art of science and technology utilization, I am convinced both the Act and NSF's program deserve the continued support of the Congress and this Senate Subcommittee.

NSF's five year investment in NEIG amounts to one cent per year for each New England citizen. Nationally that amounts to a little ofer $2 million to link innovative local governments to science and technology resources[2]. What NEIG has demonstrated through NSF's Intergovernmental Science Program is that given a modest amount of financial assistance plus an effective regional technology utilization organization, science and technology can improve the delivery of public services by local and state governments. Bill Carey, Executive Vice President of the American Association for the Advancement of Science, has referred to NSF's Intergovernmental Science Program as "a refreshing glimpse of the better side of government". This Subcommittee can help continue this valuable service to our nation's local and state governments by appropriating no less than $5 million for FY 1982.

Thank you. The NEIG representatives in attendance will be pleased to answer specific questions about NEIG's objectives, programs and accomplishments.

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[2] In FY80 NSF's Intergovernmental Science Program provided approximately $2 million for each of three programs; local government, state executive and state legislative. The national and regional innovation groups are assisted primarily from the local government program.

APPENDIX A

EXAMPLE OF FINDINGS AND RECOMMENDATIONS

The typical institutional constraints associated with intergovernmental technology utilization were identified during the planning phase of NEIG's program in 1975-76. These findings, cited below, describe the environment in which NIN members have endeavored to increase state and local government use of the scientific and technological resources of the public and private sectors.

1. Local government needs are diverse and their solution often requires an intergovernmental approach.
2. Local governments do not hire PhD's to deliver line services.
3. Staff and financial shortages in local governments serve as barriers to innovative investments in science and technology.
4. Citizens do not expect local governments to support R&D investments where rewards are uncertain and failures costly.
5. Technical assistance follow-up capabilities of existing organizations serving local and state governments are limited and often non-existent.
6. There is inadequate understanding by some federal and academic resources as to their potential role in technology utilization activities.
7. Lack of incentives for existing resources and users to cooperate and/or share political power.
8. There is a reluctance by the private sector to invest in developing public markets for commercializing science and technology.
9. Information dissemination without implementation follow-through can create frustration among state and local officials.
10. The absence of a broad-based active federal program on public sector science and technology utilization.

STATEMENT OF HON. ARLEN SPECTER, U.S. SENATOR FROM PENNSYLVANIA

Senator GARN. I will now call on Dr. Edwin Mansfield.

I am happy to have another colleague here this morning, my good friend and fellow Senator from Pennsylvania, Senator Specter, to introduce Dr. Mansfield.

Senator SPECTER. Thank you very much, Mr. Chairman. It is a pleasure to appear on this side of the table before this very distinguished Subcommittee on HUD and Independent Agencies.

Senator GARN. Of which you are a member.

Senator SPECTER. Of which I am a member [laughter]. I have found, in my short tenure in the Senate, this subcommittee to be a very worthwhile and a very interesting committee, and chaired by one of the Senate's ablest Senators who handles the appropriation matters with great dispatch—perhaps the greatest dispatch of any of the subcommittees on which I work, and in a very efficient and a very fair way.

INTRODUCTION OF PROFESSOR MANSFIELD

I am pleased to have the opportunity to introduce Prof. Edwin Mansfield today. Professor Mansfield is from the University of Pennsylvania where he holds the chair as professor of economics. I can personally attest, from having been a student in the economics department at the University of Pennsylvania—albeit, many years ago—that is a learned department of very high standing and a very difficult course.

Professor Mansfield brings to his position a distinguished academic background. He received his A.B. degree from Dartmouth College in 1951, his master's and Ph. D. from Duke University. He studied at the University of London and received a certificate of diploma of the Royal Statistical Society in 1955. He is now a Pennsylvanian. I am sure he will have important testimony to offer to this subcommittee.

I would also like to introduce Dr. Bernard Sagik, who is vice president for academic affairs for Drexel University. If you would stand, Mr. Sagik.

I cannot remain, unfortunately, during the course of the testimony. But it is a pleasure for me to have this opportunity to introduce these Pennsylvanians who come and share their wisdom. I think that Philadelphia and the State of Pennsylvania is rich in colleges and rich in academic achievement, and they do have a great deal to share. I am very pleased to have this opportunity to make these formal presentations.

Senator GARN. I have already explained, Arlen, the problems of meeting the deadline of Friday the 5th and another deadline for the 12th of June for our reconciliation bill. So the Senate is very busy this week. We do understand that you have to leave.

Senator SPECTER. Thank you very much, Mr. Chairman.

STATEMENT OF EDWIN MANSFIELD, PROFESSOR OF ECONOMICS, UNIVERSITY OF PENNSYLVANIA, CONSORTIUM OF SOCIAL SCIENCES ASSOCIATION

ACCOMPANIED BY:

RUSSELL DINES, EXECUTIVE DIRECTOR, AMERICAN SOCIOLOGICAL ASSOCIATION

THOMAS MANN, EXECUTIVE DIRECTOR, AMERICAN POLITICAL SCIENCE ASSOCIATION

ROBERTA BALLSTEAD MILLER, CONSORTIUM OF SOCIAL SCIENCE ASSOCIATIONS

Senator GARN. Dr. Mansfield, please proceed.

Mr. MANSFIELD. Thank you very much, Senator Specter.

Thank you, Senator Garn, for the opportunity to speak here this morning.

The Consortium of Social Science Associations, which includes the American Economic Association and the U.S. associations of anthropologists, historians, political scientists, psychologists, sociologists, statisticians, geographers, and other social scientists, has asked me to testify before this committee today in connection with the National Science Foundation's budget for research in economics and the social sciences. Together, these associations contain about 120,000 members.

In view of the limited time that is available, my remarks must be very brief. My comments are my own and do not represent those of any of the associations mentioned previously.

STATEMENT HIGHLIGHTED

As Senator Specter indicated, I am professor of economics at the University of Pennsylvania. I have been elected a member of the American Academy of Arts & Sciences. I am a member of the Committee on Science, Engineering, & Public Policy of the American Association for the Advancement of Science and was appointed the U.S. chairman of the U.S.-U.S.S.R. Working Party on the Economics of Science and Tecnnology.

As you know, NSF's budget for research in economics and social sciences has been cut by about 70 percent, from $31.4 million in obligations in fiscal 1980 to $10.1 million in fiscal 1982. In determining whether such a large cut should be made, the Congress should be aware of the accomplishments and benefits derived from this program.

At present, it is fair to say that the United States is preeminent in economics. The health and vitality of American economics in recent years can be attributed in an important degree to this excellent NSF program, which has supported very high quality work of both theoretical and empirical types by people at universities and research institutions in all regions of the country. Because of the fairness and skill with which this program has been administered, and the quality of the results, this program is viewed with the greatest respect by the economics profession.

Illustrations of the value of NSF-financed economic research are provided in my written testimony. For example, consider the productivity problems that our Nation has experienced. No problem facing the United States is more ominous than the reduction of our rate of productivity growth. If it continues, it would have enormous adverse consequences for economic growth, inflation, and a host of other economic indicators.

Based on two decades of economic research, much of it financed by the National Science Foundation, there is considerable evidence concerning the factors determining the rate of productivity growth in the Nation as a whole and, in particular, industries and firms. These results are useful in formulating public policy to help stimulate a faster rate of productivity growth.

For example, at the Conference on U.S. Competitiveness, which was jointly sponsored by the Joint Economic Committee of Congress, the New York Stock Exchange, and Harvard University, these results frequently were cited and used.

VALUE OF NSF-SPONSORED RESEARCH

Contrary to what sometimes is alleged, the economic research supported by NSF is not just highly technical work that is of little or no interest to noneconomists. As an illustration, consider one very recent case involving work of my own.

In its May 11, 1981, issue, Business Week devoted much of an article to summarizing the finding of an NSF study of the patent system and its economic effects. This study has been of considerable interest to patent attorneys, business executives, and other noneconomists. Of course, this is only an isolated case, but it helps to indicate that NSF-financed economic research is not just technical mumbo-jumbo practiced by economists for economists.

In conclusion, I want to make it clear that I am not arguing that the economics and social sciences program should be immune from the sorts of cuts that are being imposed on other programs. Without question, cuts can be made here as elsewhere. But cuts of the proposed magnitude, particularly if sustained for a prolonged period of time, may well have serious adverse effects in the long run on the quality of data and analysis available to public policy makers in the public and private sectors, as well as on the continued vitality of American economics. Adverse consequences of this sort are particularly relevant now since the American economy is being tested severely at home and in international markets. Accurate data and reliable analysis play an important role in helping us to meet these challenges.

INTRODUCTION OF ASSOCIATES

I am fortunate this morning in having with me Russell Dines, executive director of the American Sociological Association; Thomas Mann, executive director of the American Political Science Association; and Roberta Ballstead Miller of the Consortium of Social Science Associations, to help answer your questions. Thank you very much.

Mr. MANN. Mr. Chairman, one brief comment. The remarks of various supplicants before your subcommittee inevitably take on a sort of self-serving character. In order to demonstrate that a knowledgeable, although somewhat more disinterested, group has arrived at the same conclusions that we have, that the cuts are disproportionate and potentially very harmful, I would ask that a series of three editorials that have appeared in Science magazine be included as part of the record of these hearings.

Senator GARN. We will be happy to include these articles together with your entire statement in the record. Normally, the request from the Chair is without objection. As I am the only Senator here, there is no objection [laughter]. So the information will be included in the record.

I wish we had time for questions for each of the witnesses. Unfortunately, we do not. I do appreciate your willingness to be here.

Thank you very much.

Mr. MANN. Thank you.

[The information follows:]

STATEMENT OF EDWIN MANSFIELD, UNIVERSITY OF PENNSYLVANIA, CONSORTIUM OF SOCIAL SCIENCES ASSOCIATION

My name is Edwin Mansfield. I am Professor of Economics at the University of Pennsylvania. I have been elected a member of the American Academy of Arts and Sciences, am a member of the Committee on Science, Engineering, and Public Policy of the American Association for the Advancement of Science, was appointed the U.S. Chairman of the U.S.-U.S.S.R. Working Party on the Economics of Science and Technology, and have been an adviser to the Ford Foundation, Committee for Economic Development, and other private and public organizations. (My vita is enclosed with my written testimony.) The Consortium of Social Science Associations (which includes the American Economic Association and the U.S. associations of anthropologists, historians, political scientists, psychologists, sociologists, statisticians, geographers, and other social scientists) has asked me to testify before this committee in connection with the National Science Foundation's budget for research in economics and the social sciences. In view of the limited time that is available, my remarks must be very brief. My comments are my own and do not represent those of any of the organizations mentioned above.

As you know, NSF's budget for research in economics and social sciences has been cut by about 70 percent, from $31.4 million in obligations in fiscal 1980 to $10.1 million in fiscal 1982. In determining whether such a large cut should be made, the Congress should be aware of the accomplishments and benefits derived from this program. At the present time, it is fair to say that the United States is preeminent in economics. And the health and vitality of American economics in recent years can be attributed in an important degree to this excellent NSF program, which has supported very high-quality work of both theoretical and empirical types by people at universities and research institutions in all regions of the country. Because of the fairness and skill with which this program has been administered, and the quality of the results, this program is viewed with the greatest respect by the economics profession.

To illustrate the value of NSF-financed economic research, consider the productivity problems that our nation has experienced. No problem facing the United States is more ominous than the reduction of our rate of productivity growth. If it continues, it would have enormous adverse consequences for economic growth, inflation, and a host of other economic indicators. Based on two decades of economic research, much of it financed by the National Science Foundation, there is considerable evidence as to the factors that determine the rate of productivity growth in the nation as a whole and in particular industries and firms. These results are useful in formulating public policy to help stimulate a faster rate of productivity growth. For example, at the Conference on U.S. Competitiveness, which was jointly sponsored by the Joint Economic Committee of Congress, the New York Stock Exchange, and Harvard University, these results frequently were cited and used.

As a further illustration of research which can illuminate our productivity problems, consider the rate at which new technology spreads from firm to firm and from industry to industry throughout the economy. Both firms and government agencies are interested in determinants of the rate of diffusion of new technology. Based on NSF-financed research carried out about 20 years ago, a mathematical model was developed which has been used repeatedly to forecast such diffusion rates by firms and government agencies

in this and other countries. In addition, other economic studies, financed by this and other parts of NSF, have been of use to firms in the management of technological innovation, a topic of central importance in relation to our productivity problems. These studies have provided a much more accurate and detailed picture of the innovation process in various industries. Useful data and analytical findings have been provided concerning the risks involved in innovation and concerning the effects of various organizational and strategic factors on a firm's probabilities of success. Results have been obtained which can help firms evaluate various management techniques that are in use or under consideration (such as particular kinds of R and D project selection methods). And recent economic studies help to lay bare the basic links between the state of the economy and the rate of innovation; clearly, the rate of innovation depends heavily on the general economic climate, as well as on the resources and management of particular firms.

Contrary to what sometimes is alleged, the economic research supported by NSF is not just highly technical work that is of little or no interest to non-economists. As an illustration, consider one very recent case involving work of my own. In its May 11, 1981 issue, Business Week devoted much of an article to summarizing the findings of an NSF-financed study of the patent system and its economic effects. This study has been of considerable interest to patent attorneys, business executives, and other non-economists. Of course, this is only an isolated case, but it helps to indicate that NSF-financed economic research is not just technical mumbo jumbo practiced by economists for economists.

In conclusion, I want to make it clear that I am not arguing that the economics and social sciences program should be immune from the sorts of cuts that are being imposed on other programs. Without question, cuts can be made here as elsewhere. But cuts of the proposed magnitude, particularly if sustained for a prolonged period of time, may well have serious adverse effects in the long run on the quality of data and analysis available to policy makers in the public and private sectors, as well as on the continued vitality of American economics. Adverse consequences of this sort are particularly relevant now, since the American economy is being tested severely at home and in international markets. Accurate data and reliable analysis play an important role in helping us to meet these challenges.

AFFORDABLE SCIENCE

[Science magazine, May 1, 1981]

To the question "What is scientific research," there are several possible answers. One reasonable response is that it constitutes an ordered pursuit of questions that need and are worth studying. Here the trouble begins. Need and worth dance up and down the value scale, depending on where one is coming from and on a satisfactory consensus between investigators and sponsors.

That the federal government is not about to abandon science and technology is clear enough. In the aggregate, the provisions for support of research and development appear robust. Science has been found to be affordable across the spectrum from fundamental research to the stage where commercialization begins, provided it does not tread on the values of the new masters. For the first time in the postwar partnership of science with government, summary judgment has been passed on the legitimacy of particular fields of scientific inquiry without the benefit of due process. The social and economic sciences have been scored as flunking the tests of need and worth on the scale of government's fiscal values.

Even more troubling than the star-chamber procedures followed in reaching this choice is the implicit judgment that science has nothing useful to say about contemporary dilemmas and issues. For these matters, it must be presumed, neat answers are to be found in the transition reports. It is even possible that the social and economic sciences have been convicted for luring government into social experiments and programs that are now deemed wasteful and improvident.

But there are some realities that cast a different light on the need and worth of the social and economic sciences. As far ahead as one cares to look, for example, the United States will face close encounters with risks domestic and foreign, including those of surprise and miscalculation. There is little to show that we are well prepared for them. Going further, it would seem that while we set about spending $1.3 trillion on our defense forces there is a powerful case for honing our skills at conflict resolution. And rather than disposing of terrorism by nailing it as a Soviet conspiracy, it would be profitable to employ science to search into the formation of terrorism and find strategies for their management. As for improving productivity in the nation's economy, it should be clear by now that prayers and good works will not suffice in the absence of much greater understanding of economic behavior than we have at hand.

The charge being leveled against the social and economic sciences is that they are esoteric, meaning that they are practiced by insiders for insiders. If this is nonsense, it is nonetheless plain that the same act of public faith that legitimizes theoretical and applied research in the physical and life sciences has been withheld from the social and economic sciences because the benefits are less amenable to measurement. It is a Catch-22 situation, and it is not likely to improve unless the stronger scientific disciplines come to the relief of their embattled colleagues. Isolating the social and economic sciences means inflicting damage on integrity of all scholarship.

The dilemma that is framed by the exclusionary thrust at the worth of social and economic research raises unsettling questions as to what our national science policy is, and how it is decided. Budgetary dispositions should be consistent with a policy for science, and not presume to reinvent it. It would be a strange species of national science policy that forecloses progress toward understanding and illuminating the tides of human choice and denies that it is affordable science.—WILLIAM D. CAREY

RESEARCH EQUIPMENT ACQUISITION

[Science magazine, May 22, 1981]

Instrumentation defines the cutting edge of experimental and observational science. Scientists invent their own tools of discovery, quickly incorporating new phenomena into new instrumentation with which to press forward the search. Concurrently, the new analytical principles are reversed to provide new tools for design and process control. Thus yesterday's scanning electron microscope becomes tomorrow's electron beam mask generator for integrated circuits. The dynamics of the concurrent advances in scientific instrumentation and industrial technology lies at the heart of the American success story in both arenas.

Unhappily, this process is no longer as healthy in the United States as it once was. Instrumentation leadership has migrated abroad in one class of instruments after another. The obsolescence of research equipment in our universities threatens the rapid progress of science itself. Few engineering schools provide their students access to the equipment they should be expected to master in industry. Technical progress in materials science and engineering now requires access to a large number of sophisticated instruments, costing $100,000 and up. Scientists have had to learn to share expensive instruments and to set priorities for major facilities within their fields.

The National Science Board has for several years sought to give priority to critical equipment and facilities. Unfortunately, a $100-million addition to the National Science Foundation budget for research and instructional equipment came at a time when the pressures to bring government expenses under control have forced it out of the revised budget for fiscal year 1982.

The pattern of periodic national equipment crisis must be broken. Universities must find more responsive and flexible means of allocating their limited research funds between salary and equipment costs. They need new sources of capital to supplement federal appropriations. The instrument industry needs to be given incentive to innovate with daring new instrumentation ideas, knowing that they will be rapidly tried out by demanding and expert researchers.

One way to help achieve this would be to make the Administration's investment tax credit for equipment used in research clearly available to companies offering leased equipment to nonprofit institutions. This would stimulate the leasing of scientific instrumentation to the research community. Universities might be able to capture some of the financial benefit and make equipment acquisition decisions in response to current needs with lower initial cost and without permanent commitments. New instrumentation ideas would be more readily tested in the marketplace. Older instruments would find their way out of the university research laboratory into less demanding environments.

None of this will work, however, unless the university community takes a different point of view toward equipment acquisition. Many universities purchase instrumentation as though the cost of capital were zero. Motives for purchasing equipment for permanent use by a small group are rational enough—a hedge against discontinuities in research support, administrative simplicity, and the opportunity to modify the equipment without concurrence from others. But a shift to leasing obviates the government's need to appropriate all of the capital investment up front, diminishes the role of the government contract monitor in equipment selection, and could reduce acquisition time from years to weeks.

Congress must provide sufficient funds to keep our science competitive, and the scientific community needs to look to its instrumentation acquisition strategy in the light of the changing economic environment. For if we cannot keep the U.S. instrumentation industry and the experimental scientists who depend on its capabilities in dynamic good health, not only science but economic progress will suffer.—LEWIS M. BRANSCOMB, *Chief Scientist, International Business Machines Corporation, Armonk, New York 10504, and Chairman, National Science Board*

PRESIDENT REAGAN, SCIENCE, AND ENGINEERING

[Science magazine, May 29, 1981]

In his first 4 months in office President Reagan has demonstrated considerable political acumen. He has focused major public attention on budget cutting, an issue he could win on. The recent victory in the House of Representatives' vote on budget cuts makes it seem likely that the White House will be a dominant factor in budget decisions for years to come. Other victories are likely to follow. Twenty-five years of Democratic Congresses have left some easy targets in such areas as federal paperwork, federal regulations, and excessive taxation. Mr. Reagan's actions to date indicate that he intends to move energetically toward goals he enunciated during his campaign. It is quite possible that he will continue to perform in a way that most presidents before him have avoided. Ordinarily, promises made during a campaign are quickly forgotten, but Mr. Reagan may turn out to be one of the exceptional presidents who reaches many of his announced goals. But sooner or later, the President is likely to run out of easy triumphs; for example, his proposed cure for the nation's economic problems is questionable. In view of the record to date, it seems worthwhile to examine the President's positions with respect to science and engineering.

For the longer term, if this nation is to enjoy security and to compete economically, it must foster a strong scientific and engineering competence. Of this the Reagan camp seems unaware. The 32,000-word 1980 Republican platform made no mention of medical research. One tiny paragraph (about 40 words) was devoted to research on renewable energy. Another paragraph (about 50 words) contained the following: "America's technological advantage has always depended upon its interaction with our civilian science and technology sector." A search of the *New York Times* index for pre- or postelection treatment of science or technology by Mr. Reagan drew a blank. During the campaign, substantial efforts were made by publications to elicit information concerning attitudes toward science and engineering. Comments published in the 27 October 1980 issue of *Chemical and Engineering News* were brief and not particularly responsive. The material submitted by the Reagan camp for publication in the October issue of the engineering journal *Spectrum* was an insult to the profession. Some questions were unanswered. Responses were uninformative.

Our search for documentary information included the Republican National Committee and the White House Press Information Office. Neither had anything positive to contribute. A call to Representative Don Fuqua (D–Fla.), chairman of the House Committee on Science and Technology, provided no insight about Reagan. A call to the office of Senator Harrison Schmitt (R–N.M.) also yielded no further information about Reagan. However, Schmitt, the former astronaut who holds a Ph.D. degree in geology and is chairman of the Science, Technology, and Space Subcommittee of the Commerce, Science, and Transportation Committee, sent us a copy of a letter he had written to Budget Director David Stockman in which he staunchly defended scientific research. Other congressmen who have been supportive are James G. Martin (R–N.C.), who holds a Ph.D. degree in chemistry, and Don Ritter (R–Pa.), who has a Ph.D. in metallurgy.

Others in influential positions whose opinions have not yet been openly manifested are industrial scientists and engineers. Today some of these people are found among top management in many of the most successful companies. They are aware of the nation's needs for higher education, especially that in the sciences. A very distinguished group of them has formulated a constructive program for meeting the nation's scientific and technological needs. The document was submitted to the White House early this year. The authors have received assurances that their report was favorably received, but as yet it has not been publicly released.

The Reagan camp has so far chosen to ignore the scientific and engineering community. For the short run, it may be able to afford to do so. But for the long term, it can ill afford to lose support among those who advance this nation's technological strength.—PHILIP H. ABELSON

NATIONAL SCIENCE FOUNDATION BUDGETS: FISCAL YEARS 1981, 1982, AND BEYOND

[Science magazine, May 1, 1981]

Lewis M. Branscomb

In the National Science Foundation Act of 1950, the 81st Congress and the 33rd President of the United States assigned to the Foundation the following purposes (Public Law 81-507 as amended):

> To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

The National Science Foundation's (NSF) budget request for fiscal year 1982 and the associated proposed rescissions for fiscal year 1981 present the National Science Board with both an immediate task and a longer term opportunity. The Board recognizes the emergency nature of the economic situation and the vigorous remedies the President seeks in the way of federal expenditure reductions in nonmilitary areas. The emergency precluded the normal process of discussion of program priorities in which the Board could participate meaningfully.

It is the National Science Board's statutory responsibility to assist the President by establishing policies and priorities, and by guiding the activities of the NSF to ensure that with the available resources the NSF fulfills the functions defined by the Congress and the goals established by the President in the most efficient and effective manner possible.

Managing the Short-Term Problems

In the short term the NSF must focus the available resources on the task of contributing as much as possible to the strength of American science and technology; the quality and sufficiency of scientists and engineers educated for careers in research, development, and engineering; and maintenance of the U.S. position as a leader in international scientific and technological endeavors.

In accord with this near-term goal, the budget for fiscal year 1981 puts high priority on science and engineering research performed in academic environments to optimize both educational and knowledge benefits from a single investment. The Board fully supports this short-term priority, which reflects the federal government's awareness that the nation's basic scientific and engineering capabilities, and the academic institutions that sustain them, cannot maintain primacy for the United States without strong federal commitments.

The National Science Board is, however, faced with two problems of serious concern for the immediate future of American science and engineering. First, unless additional resources can be found—in the NSF budget or from other sources—the alarming obsolescence of research equipment in our university laboratories will accelerate. The nation's principal academic research laboratories need new instrumentation and a method of sustaining refurbishment over a number of years. University research equipment produces the most demanding technical and innovative requirements. Thus, keeping university equipment at the cutting edge sparks both innovation and productivity improvements in American industry broadly. Obviously, the research equipment problem is with us, and the NSF will have to deal with it in fiscal year 1982 by making careful choices to meet the most critical instrumentation needs within the support of research.

The NSF has, within its appropriation authority, limited capability to reprogram funds to take advantage of emerging research opportunities and to make some adjustments that deal with specific issues. The Board believes, however, that the NSF needs some additional flexibility to support opportunities in the behavioral and social sciences, science and engineering education, and international science activities, as discussed herein and as the Board continues to review these programs. Within the overall presidential budget request, the NSF will seek the appropriate authority from the Congress for these purposes.

Behavioral, Cognitive, Economic, and Social Sciences

The National Science Board believes that the vision of the Congress in mandating NSF to support research in all the sciences, specifically including the social and behavioral sciences, has been well justified.

1) The NSF has learned how to select for support high-quality, fundamentally important, and practically useful research in these fields.

2) One of the most rapidly advancing and promising areas of research progress in the United States is in intertwining the previously separate worlds of mind and body, of neurophysiology and behavior. The new discoveries are unveiling extraordinary possibilities for making life better for humankind.

3) Many areas of basic cognitive science and related fields are important for sustaining the rapid growth of our information industries.

4) The economic policies of this new Administration, with its continuing concerns about productivity and international competitiveness of the American economy, present both unparalleled opportunities and great need to study the workings of our economy from many perspectives, conceptual and empirical.

The Board has under way an examination of the research in the social, behavioral, and related sciences to ensure that the NSF's future activities meet its demanding standards of excellence and importance. Any funding adjustments in this area would be targeted at the highest priority areas, meeting the same tests for excellence and value applied to other areas of science and engineering.

Science and Engineering Education

As noted above, the NSF is centrally engaged with science and engineering education at the undergraduate and postgraduate levels. America's world leadership in science owes much to this unique but wise policy of focusing federal basic research investments on laboratories associated with educational institutions. The NSF is thus irrevocably engaged in sustaining science and engineering education in partnership with state and private institutions.

Several programs in NSF's Directorate for Science and Engineering Education (SEE) are part of this basic mission. For example, while the research directorates indirectly support graduate training with project grants, the graduate fellowships of the SEE directorate support research through a national competition to identify and assist the brightest students to participate in graduate research. Together these activities complement one another toward a common objective, made more important by critical shortages in certain fields, such as computer sciences and chemical engineering where industrial demand is depleting the ranks of students and faculty alike, bringing a degree of urgency to these programs. Another example is the need for equipment with which our engineering schools can offer students for the B.S. in engineering a modern technical education up to the needs of industry.

The other science education activities of NSF address problem areas where, admittedly, the federal role is less crisply defined, but where the Board can see a crisis of serious proportions coming. The postsecondary and professional schools cannot satisfy the needs of our society for highly trained researchers and engineers if our brightest young people are discouraged or unmotivated to pursue technical careers.

At a time when Japanese and Russian engineering schools are outproducing the United States by two to one or more on a per capita basis, United States enrollments in graduate engineering are declining, scholastic aptitude test scores of students aiming for science careers are declining, and the ratio of U.S.-born to foreign-born graduate students is declining. Girls and minorities who are discouraged from studying mathematics and science in high school may find themselves effectively barred from technical careers.

At the present time the supply problem is largely confined to engineering, but the decline in interest and test performance of potential science and engineering students is a cause for serious concern. Continued, this could weaken the U.S. technical capability and broaden the areas of shortage beyond those now demonstrable. The National Science Board shares the deep concern of the scientific and engineering communities about these trends. The programs of the SEE directorate should represent experimental efforts to find effective ways to reverse them.

The Board agrees with the Administration that much of the burden of education is a local responsibility. At any reasonable budgetary level, the NSF's efforts would be too small to be fully effective in reversing the decline. Despite the NSF's mandate to strengthen science education, and strong support in the scientific community and the Congress for these efforts, there is not an effective consensus for federal support at a sufficient level to have adequate effect.

The National Science Board hopes that the NSF will be given sufficient flexibility to sustain the NSF's opportunity to lead a voluntary effort in collaboration with states and private institutions and the public to focus on the coming educational crisis, to evaluate its future impact on the nation's technological capabilities, and seek to define a credible, effective, and appropriate role for NSF in the future. While the Board acknowledges that solutions to science education problems at the precollege level must be accomplished by private citizens and local institutions, the Board is convinced that the NSF has an indispensable catalytic role it should not abrogate, even if the level of investments is severely curtailed.

Regarding special programs for women and minorities, the Board recommends that the director, to the extent practicable, assign responsibility to research program officers to seek increased ways to incorporate the desirable objectives of these programs into the administration of their grants. A sincere effort could mitigate the effect of elimination of the resources for these special programs.

International Science and Technology

The National Science Board will utilize budgetary flexibility in a third area where the importance and impact on our international position outweighs the relatively modest sums involved. Our nation's scientific and technological primacy, so heavily challenged by other industrial nations today, contributes to the respect accorded in other nations to our defense and industrial strength. The NSF is frequently called upon to accept responsibility for implementation of many of the scientific commitments emerging from the President's foreign policy initiatives. It does so in cooperation with and at the request of the Department of State, for the NSF and the National Academy of Sciences, whose international activities the NSF frequently supports, are uniquely qualified to manage these activities.

Through these international cooperative activities, American scientists gain access to valuable knowledge and unique facilities in other countries. Our allies would be dismayed and more hostile countries would be dealt a political victory by default if the NSF were not able to fund an adequate level of U.S. participation. In addition, the loss of access to international facilities would place a heavy burden of capital investment on the United Stats to duplicate them.

The criteria used by the Board in program choices include three important parts. (i) Does the program accomplish the President's foreign policy objectives? (ii) Does the United States receive from its partners value commensurate with our investment? (iii) Do the cooperating countries permit their most able scientists to participate?

Looking to the Future

From a strategic point of view, the National Science Board sees the role of the NSF strongly supportive of the President's two highest priority goals: to develop a dynamic economy and to ensure a secure nation. The Board recognizes that, while science has much to contribute, both to our culture and to the betterment of the human condition, the NSF is not a part of the "safety net" of social support, but must be measured against three stern tests. Do its activities comprise an essential component of national strength? Is it a federal responsibility to finance them? Does the NSF do so efficiently and well?

The Board recognizes that problem-solving applied research with a capturable rate of return is largely the responsibility of private industry. The Board therefore focuses the NSF's efforts on the most promising areas of nonproprietary science and engineering research—areas few, if any, companies could financially justify but from which all benefit. By recent reorganization the NSF is attempting to address the crisis in engineering research and training, so vital to industrial productivity and, thus, cost competitiveness.

At the same time, the scientific preeminence of the United States is being challenged in Europe and now increasingly in Japan, which realizes that it must match our scientific achievement if it is to advance from imitation to innovative technology. Keeping the United States strong in both areas—science and engineering—will be a serious stretch and will require continued focus on the primary policy guide to project selection at the NSF: competitive evaluation against strict quality criteria.

The National Science Board is also giving strong encouragement to urging private industry to expand its own investment in research through collaboration with scientists and engineers in universities.

The Board sees the technical content of the nation's economy continuing to shift from manufacturing to services and notes that two-thirds of the U.S. workforce is already engaged in the information sector. This trend indicates that elements of the social and economic sciences will continue to rise in practical economic importance, just as "software" in the computer industry exceeds "hardware" revenue growth rate and return in investment.

A study by the National Science Board of the role of the NSF in science and engineering education has been under way for several months and will form the basis for evaluating alternatives in the future. The Board will continue its support of research level education in science and engineering, including fellowships, and will develop appropriate programs for precollege science education suggested by the current study.

These policies will guide the National Science Board's program priorities within the total resources allocated to the NSF. To establish a rational basis for that total, it is necessary to evaluate the adequacy of the NSF's investment in research and scientific and engineering education. Such an evaluation would be most effectively conducted by the Office of Science and Technology Policy in the Executive Office of the President. The National Science Board stands ready to and is looking forward to cooperating with that Office and the Office of Management and Budget in the conduct of such an evaluation in looking toward the 1983 and 1984 fiscal year plans.

INSTRUMENTATION NEEDS OF RESEARCH UNIVERSITIES

[Science magazine, Mar. 6, 1981]

Laurence Berlowitz, Richard A. Zdanis
John C. Crowley, John C. Vaughn

Instruments are the tools with which researchers expand scientific understanding of the properties of nature. Their importance to the progress of science is indicated by the number of Nobel Prizes awarded for the development of instruments or methods of measurement. Within the past three decades, for example, Nobel Prizes in physics have been awarded for the discovery of nuclear magnetic resonance (NMR), the phase-contrast microscope, the transistor, the Cerenkov counter, the bubble chamber, the maser and laser, and holographic imagery.

Traditionally, research universities have played an integral role in the conception, development, and innovative use of instruments. For example, in 1928 Ernst Ruska, a beginning graduate student, began work on the first electron microscope. A half-century of development, based to a large extent on university research, has established the electron microscope as a powerful tool for the investigation of structure down to the atomic level. The development of instruments such as the flow cytometer has provided methods for conducting precise analyses of the chemical constituents of individual cells. As was true of the electron microscope, the flow cytometer was developed through a convergence of technologies.

Due to the rapid pace of instrument development, many instruments purchased only a few years ago are now obsolete. The 1960 Nobel Prize in physics was awarded for the development of the bubble chamber; today this technique has largely been replaced by electronic detectors such as drift chambers and wire chambers. F. Block and E. M. Purcell developed NMR in 1945 and 1946; enhancements of the technique (Fourier transform, signal-averaging methods, superconducting magnets) have produced an approximately 10,000-fold increase in speed and a 100-fold increase in sensitivity over the best equipment available only 10 years ago.

However, the cost of many new instruments threatens to make them inaccessible to many university researchers. The cost of multinuclear, high-field NMR spectrometers is approaching $500,000; flow cytometers cost up to $175,000. But without such instruments, the capacity of researchers to work at the frontiers of knowledge would be greatly impaired, and opportunities to develop superior instruments and expand their uses would be lost.

To assess the present capacity of universities to acquire necessary instruments, the authors, under the sponsorship of the Association of American Universities, conducted a study for the National Science Foundation (NSF) on the scientific instrumentation needs of research universities. The study examined the current status of scientific instruments in major research universities and sought to identify factors that facilitate or impede their acquisition, use, and development.

Study Design

The project team visited 16 universities, six national and government laboratories, and nine commercial laboratories. Of the universities visited, eight are public and eight are private. Five public and five private universities were chosen from the 20 universities having the largest total federal R & D obligations in fiscal year 1977. Major research universities were emphasized because it was thought that this would identify the most critical national problems. To broaden the sample by rank and geographic location, six additional institutions were selected from universities with lesser R & D obligations in that year. National, government, and commercial laboratories were included to provide a context for assessing the university laboratories.

Working in close conjunction with a seven-member advisory committee of university and industry representatives, the project staff examined research instrumentation in physics, chemistry, biological sciences, earth sciences, and electrical engineering. In all, over 700 individuals were interviewed, including some 300 university researchers, department heads, and research administrators and approximately 60 researchers and research managers in national, government, and commercial laboratories. Numerical data on instrument acquisition and age were gathered from 14 universities and four commercial laboratories. Anecdotal data presented here were selected to be representative of the problems at major research universities. Where conditions were variable, the range of situations has been presented.

Major Instrumentation Problems

Instrumentation needs vary widely within and among the universities and departments we visited. Although this diversity makes generalizations difficult, six major problem areas were identified:

1) *Acquisition and replacement*. University researchers are having great difficulty replacing worn-out or obsolete instruments and acquiring newly developed ones. Data from a major industrial research laboratory show that the total capital expenditures per scientist doubled from 1975 to 1979. In a recent study of the five important physicochemical subdisciplines, it was shown that the cost of scientific instruments priced above $5000 rose at an annual rate of 20 percent from 1970 through 1978, far exceeding the average inflation rate (*1*).

Table 1 shows that most university instrumentation has been purchased with funds from federal research grants and contracts. However, in some fields it has not been possible to adjust the size of grants to keep pace with steadily rising costs.

To sustain the scope of their work, researchers must spend large amounts of time competing for grants from many agencies, both federal and nonfederal. Active scientists often require three or four current grants to maintain their research programs. Many investigators report that, while in the past they were able to meet most of their instrumentation needs through research grants, the increase in all research costs, combined with the relative decrease in the size of research grants, has left them unable to purchase all but the least expensive equipment through their grants.

Table 1. Sources of instrumentation funding at universities visited (fiscal year 1979). The data are averaged over 68 departments and subdepartments at seven public and seven private universities.

Source of funds	Public (%)	Private (%)
Federal research grants and contracts	46	59
Federal equipment grants and contracts	14	19
Institutional sources	28	11
Capital construction funds	9	5
Other	3	6

2) *Start-up funds*. New faculty members require start-up funds to provide the instrumentation needed to initiate a competitive research program. These funds are now difficult for many universities and departments to provide; while the costs to equip research laboratories are rising, institutional sources of start-up funds are shrinking.

Table 2 provides an example of increased start-up costs in chemistry. The table lists the actual expenditures of a midwestern public university for equipping two new faculty members, one in 1970, the other in 1979. Also listed are the major shared instruments to which they required access. Each researcher was working in the same general field and had the same level of experience (Ph.D. plus a 2-year postdoctoral fellowship). In addition, each had the same basic assignments (teaching and research) at the institution. Both sets of instruments were used to investigate the same general phenomena, but the 1979 instrumentation allows analyses to be made with much smaller samples, saving time and money; furthermore, the results are considerably more accurate and specific. Indeed, the specificity and sensitivity required to make contributions to this field would be impossible without the modern devices listed.

Inflationary price increases are simply

the rising baseline upon which are superimposed the frequently much larger cost increases resulting from advances in existing instruments and the advent of new ones. The price increases shown in Table 2 are equivalent to an annual increase of 22 percent for laboratory instruments and 23 percent for departmental instruments. In addition, the 1979 instrumentation requires more support equipment for its proper operation and maintenance, adding expenses not reflected in the table. Clearly, instrument capabilities have increased dramatically, but so too have costs.

The capacity to meet these increasing start-up costs varies greatly. The chemistry department at one midwestern public university can provide up to $70,000 for new faculty members and considerably more to recruit senior researchers. However, administrators at a southern private university can provide only $10,000 to $20,000 a year in start-up funds for nonmedical researchers—although on rare occasions they have been able to generate as much as $100,000 by pooling endowment resources over 2 or 3 years. The highly ranked western universities that we visited vary widely in their ability to provide start-up funds. Some report no difficulties; others have very low ceilings. The chairman of the biology department at a western public university reports that when he joined the department 15 years ago as a new faculty member, he received $30,000 in start-up funds; today the department can provide only $10,000, even though costs to equip a laboratory have increased substantially.

3) *Operation and maintenance costs.* Meeting the cost required to operate and maintain instruments is a ubiquitous problem for university researchers. The operation and maintenance burden includes expenditures for service contracts for commercial instruments, replacement parts, staff salaries and equipment for support shops, and, of course, operating the instruments. A researcher at a midwestern public university recently purchased a $30,000 cryogenic magnetometer; to operate the instrument requires $8,000 annually, principally for liquid helium. As another example, plasma tubes for an argon-ion laser have to be periodically replaced at an average annual cost of $10,000.

According to the chairman of the chemistry department at a midwestern public university, operation and maintenance costs could be supported by other budgets in the past, but now the costs exceed the capacity of institutional funds to meet them. When departments cannot adequately meet operation and maintenance costs, instruments are improperly maintained, shortening their useful life; support personnel are cut back and support projects pile up; faculty and students function as technicians, with a consequent loss of time for research and training. Obsolete instruments may be more difficult to operate and more likely to break down; manufacturers may refuse to renew service contracts; spare parts may no longer be available. These consequences can cripple a research program.

4) *Facilities construction and renovation.* Without adequate facilities, research programs cannot operate at full capacity. In the 1960's, substantial federal resources were available for the construction and renovation of research facilities. However, such support has diminished in recent years, placing an increasing strain on institutional funds.

Frequently there is a long delay between the decision to construct or renovate facilities and the acquisition of the necessary funds. With today's inflation, this delay can substantially reduce what the funds can accomplish. At a midwestern public university, inflation has effectively eliminated $250,000 from a planned $2 million wing to be added to a bacteriology department building; at a western public university, the time it is taking to raise $4 million for a biology building will likely cost at least one of its four floors. At one eastern private university, a new biology facility vital to the strengthening of the department has had to be abandoned.

Aging facilities impede research efforts. Recently, a malfunctioning distillation system in the zoology department building at a midwestern public university paralyzed research in the building for over a week. At a private university in the East, a promising program in contraception research was

Table 2. Increased start-up costs for research: example from synthetic chemistry.

1970		1979	
Instrument	Cost ($)	Instrument	Cost ($)
Laboratory instruments			
Two Rinco evaporators	300	Rotovac evaporators	1,700
Two vacuum pumps	400	Preparative liquid chromatograph with fraction collector	7,200
Spinning band distillation apparatus	825	Analytical liquid chromatograph with recorder and data system shared with capillary column	13,250
Three solvent stills	600	Gas chromatograph	11,300
Melting point apparatus	150	Solvent stills with fire safety hoods	4,500
Gas chromatograph and recorder	1,450	Hot plates, stirrers, and heating mantles	600
Hot plates, stirrers, heating mantles	275	Microware with standard taper joints	3,000
Glassware	500	Glassware	800
Infracord infrared spectrometer	3,500	Thin-layer chromatographic plates and tanks	1,500
Total	8,000		43,850
Departmental instruments to which access is needed			
A-60 NMR spectrometer	40,000	90-mHz R-32 NMR spectrometer	52,000
Cary 14 ultraviolet/visible spectrometer	14,000	200-mHz wide-bore NMR spectrometer	225,000
Hitachi RMU-6 mass spectrometer	60,000	CFT-20 carbon-13 NMR spectrometer	80,000
Precision refractometer	2,500	Finnigan 4000 mass spectrometer and data system	160,000
		Cary 17 ultraviolet/visible/near-infrared spectrometer	32,000
		Digilab FT-infrared spectrometer	82,000
		High resolution mass spectrometer CEC-21-110	110,000
Total	116,500		741,000

abandoned because the university could not meet new federal requirements for housing the dogs used in the research.

Animal facilities, greenhouses, and herbaria are particularly difficult to maintain. These facilities, tied as they usually are to building construction, are becoming old, but replacement and renovation funds are difficult to obtain through federal grants and are becoming extremely difficult to obtain from local sources.

5) *Support equipment*. Support equipment is instrumentation not directly involved in the measurements performed in experimental research but necessary to test, calibrate, or provide an appropriate environment for the core instruments. It includes oscilloscopes, vacuum leak detectors, and power supplies.

Difficulties in funding support equipment often arise not because of the absolute level of support but because the funds are targeted for other categories. A number of researchers report that specialized research instruments are more likely to be funded than routine, but important, support equipment.

6) *Inflexibility of funding*. Research is an ongoing process that rarely has distinct boundaries or a specifiable future course. Yet many investigators report that research funding is becoming increasingly inflexible. There is increased pressure for fast results. More paperwork is required. When gaps in funding occur there are no reserve funds to sustain research programs; valuable support personnel must often be laid off and may be irretrievably lost when such gaps occur.

A geologist at an eastern private university feels that peer review boards, operating under current constraints, fund only research deemed likely to produce specifiable short-term results. This, he believes, discourages investigators from pursuing long-term or high-risk research. A colleague, corroborating this view, states that he is able to develop essential instruments only by resorting to subterfuge.

Because of the increase in instrument costs, many investigators attempt to pool funds from their separate grants to purchase mutually needed instruments. However, rigid funding procedures often militate against such attempts at effective sharing.

Inflexibility in federal programs requiring matching funds for costly instrumentation also creates problems for universities. Success in meeting matching requirements varies widely. For example, certain chemistry departments have their own endowments and can usually meet matching requirements. On the other hand, some state universities receive little or no state funding for research equipment or related costs; for such institutions, matching requirements are a major financial problem.

Large matching requirements can generate long delays in acquiring needed instrumentation, even among institutions with substantial local funds. An eastern private university was required to provide $150,000 of the total cost of $300,000 for a high-field NMR spectrometer. Difficulty in raising the funds impeded the department's research efforts for more than a year. In effect, such delays deprive the nation of the research for which federal funds already have been obligated.

Variations in Problems

Across Disciplines

Each discipline has its own unique instrumentation problems. In physics, maintaining adequate support shops is difficult. The cost of service contracts is a major financial burden to many biology departments. Instrumentation in high energy physics, surface chemistry, and microcircuitry has become extremely costly. Some schools have begun closing off certain areas of research because they have become prohibitively expensive.

Because much of their equipment must be specially designed and fabricated, physicists are heavily dependent on support facilities and staff. We received several reports of graduate students being used as technicians far beyond levels justified educationally to compensate for insufficient technical support.

Chemistry has evolved from a benchtop science into a predominantly equipment-intensive discipline. In natural products chemistry, even one of the best-funded institutions visited has outmoded instruments. An industrial research administrator notes that inadequate support for the electrical engineering field of microcircuitry is fast becoming a "national disgrace" because of the inability of most departments to acquire the instruments required for advanced training.

In the earth sciences, equipment needs vary according to the subdiscipline. While laboratory experiments such as those simulating the pressure and temperature of the earth's crust are important, field data are essential. Because the earth itself is the laboratory, acquiring data is difficult and costly. Ships, satellites, and computers are essential to some programs. Large-scale, cooperative efforts such as those mobilized in seismic studies of volcanoes and earthquakes are often required. Geochemistry has been revolutionized through the use of the electron microprobe, the mass spectrometer, and the scanning electron microscope. With the advent of the ion microprobe, geochemistry research has become dependent on the extremely expensive analytical tools of modern chemistry.

Biology departments work primarily with commercial equipment and therefore rely heavily on service contracts. These costs have increased substantially during the past few years and have become a major financial burden for many departments. In an eastern molecular biology laboratory, the average cost of service contracts for centrifuges increased approximately 100 percent between 1975 and 1979 (from $379 to $752 annually per instrument). Despite the growing importance of large-scale instruments to biology, state-of-the-art electron microscope facilities in the major research universities have deteriorated.

Severity of the Problem

Most of the university laboratories visited fare poorly in comparison to the nonuniversity laboratories. For example, the government laboratories have more (if not always better) instruments and more extensive support facilities; and they rarely experience serious backlogs of research support projects. Several laboratories have extensive programs of instrument development. While these vary in quality, instrument development in university laboratories, in contrast, is being squeezed out of many research programs.

There is a surprising degree of variation in the quantity and quality of instruments in the commercial laboratories visited, but the best surpass almost all university laboratories visited. Figure 1 compares the age distribution of the current inventories of university and industry instrumentation purchased from 1960 to 1978. The inventories do not include instruments that are unusable due to age or disrepair. The curve for universities represents data from ten institutions, pooled across the five disciplines for which data were gathered (*2*). The curve for industry represents data from the research laboratories of two major profit-making companies.

The figure reveals a striking disparity in the age of university and industry instrumentation; the median age of the university instrumentation is twice that of the instrumentation in the two industrial laboratories. The philosophy of both industrial organizations is to fund instrumentation at a level such that ideas, rather than instruments, are the rate-limiting factors in research. As profit-making organizations, these companies are nonetheless concerned about the cost-effectiveness of their expenditures, and both have policies encouraging instrument sharing.

The capacity of industrial laboratories to mobilize resources rapidly to exploit suddenly arising opportunities provides one of the greatest disparities between these and university laboratories. Even well-instrumented university laboratories were typically assembled through acquisitions over a number of years. The director of an industrial research laboratory states that it is "pathetic" to see distinguished university researchers struggling to acquire needed instruments by bits and pieces. In contrast, on high-priority projects, industrial researchers can acquire all the instruments they need when they need them.

Scientists in commercial laboratories are not burdened by the administrative paperwork required for the acquisition of research funds and required by related reporting obligations. Indeed, as one university researcher sardonically states, "The ivory towers are now in industry."

However, in some fields, university researchers frequently observe, even the best industrial laboratories in this country do not compare with the foreign laboratories that they have visited or worked in. When asked to identify the best-equipped laboratories in their fields, many scientists mention foreign facilities, particularly Japanese and Western European laboratories.

While investment in R & D by both the federal government and industry has declined in this country, it has been increasing in foreign countries, most notably Japan, West Germany, and the Soviet Union. Research in American universities may remain competitive with research carried out in industrial and foreign laboratories by compensating for the lack of instruments and laboratory facilities with people. The capacity to cope by substituting intellectual ingenuity for instruments, however, will likely be nullified if present trends continue.

Assessing the Situation

The deteriorating quality of university instrumentation is threatening the capacity of even the best institutions to conduct research and provide first-rate training. This deficiency retards the pace of research because the energies of research scientists and graduate students must be redirected from innovative investigation to subsistence activities. Both new and old lines of inquiry are being closed off because of difficulties in obtaining essential but costly instruments.

University scientists often expand the capacities of existing instruments through modifications made in the course of their research. A recent study showed that of 44 improvements that were incorporated into a commercial instrument, 32 were contributed by university scientists (*3*). But lack of access to state-of-the-art instruments and sufficient support facilities may diminish the role that universities play in making such contributions. Also, since over half of the nation's basic research is conducted in universities, the deterioration of university instrumentation may have serious consequences for U.S. science in terms of international competition.

We identified three causes for the severity of instrumentation problems in universities:

1) *Decreased federal support*. Federal support for basic academic science has not kept pace with the rapidly rising costs of conducting research. Strained local budgets in many universities cannot compensate for declining federal funding. Funds for instrumentation have been severely curtailed. For example, the proportion of funds allocated by the National Institutes of Health (NIH) for laboratory equipment declined from 11.7 percent in 1966 to 5.7 percent in 1974 (*4*). Scientists report that they often do not request needed instruments for fear of jeopardizing the basic proposal. To accommodate restricted budgets, the principal investigators, peer review committees, and program officers preserve research manpower and trim instrumentation and support equipment from proposals. This reflects the fundamental importance of scientific and technical staffs to the strength of research programs and the need to maintain the training mission of universities. However, the continued choice of personnel over instruments will lead to further deterioration in the quality of instruments available to conduct research. The academic research system is consuming its capital, and the grace period during which the system can operate effectively on earlier investments is ending.

2) *Inflexibility within the project system*. Current regulations make it very difficult for researchers to pool expenses for acquiring and maintaining instruments to be shared among their projects, especially when the support is provided by different agencies. These regulatory barriers impede the efficient utilization of instrumentation funds that do exist and ignore the research benefits gained when instruments are shared and costs are appropriately pooled (*5*).

3) *Insufficient support for maintenance*. Inadequate provision for maintenance often leaves instruments dysfunctional for extended periods and decreases their effective life. Even when researchers and their students are able to

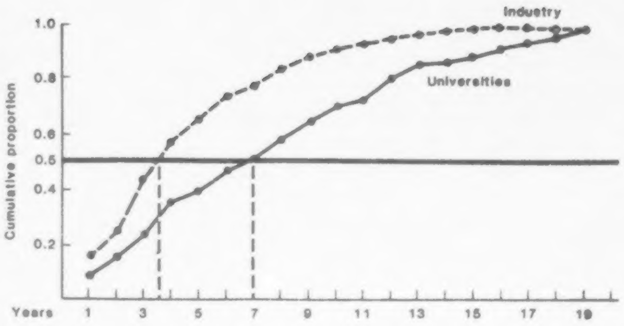

Fig. 1. Mean age of instruments in universities compared with that of instruments in industry (proportion of instrumentation inventory purchased less than *n* years ago). Values for universities are averages of the data for 54 departments and subdepartments of ten institutions; values for industry are averages of the data for two major industrial research laboratories.

compensate for the lack of maintenance support by performing such necessary tasks themselves, they must do so by diverting valuable time from research and training programs.

Current Government Programs

Federal funding of university instrumentation comes from a number of sources, principal among them the following:

1) *The project grant system*. This system has been very successful in channeling federal funds into high-quality research, but intense competition for the limited funds available has adversely affected instrument acquisition.

2) *Special instrumentation funding programs*. These programs, such as those sponsored by NIH and NSF, have been helpful in supplementing the project system and encouraging the sharing of expensive instruments. However, a number of these programs do not support installation, housing, or operation and maintenance costs and require that the university provide matching funds that are often difficult to acquire from local sources.

3) *Formula grants*. These institutional awards are established on a formula that is related to some segment of the annual federal R & D project funding of the institution involved. The biomedical research support grant (BRSG) of NIH is generally considered to be the most important and successful of the existing formula grants. Funds provided by BRSG's, although limited, have proved effective in supplementing local sources to meet start-up costs and other instrumentation needs. The NSF administered a formula grant program from 1961 to 1974; over half the funds provided were used to acquire instruments (*6*).

4) *Block-funded research centers*. These centers, such as the materials research laboratories funded by NSF, provide stable sources of instruments. Directors and investigators utilizing the centers point out their flexibility, efficiency, and ability to successfully foster instrument sharing. However, their scope is narrow relative to the full range of university research, and few institutions have them.

5) *Regional programs*. A number of regional instrumentation programs have been developed. For example, in 1978 NSF devised a program to provide regional access to expensive state-of-the-art analytical instruments. At some level of cost, it is clear that regional or national facilities are necessary—that the instruments required to support the research are simply too expensive to remain under the purview of the individual researcher, a single department, or even an institution. The high energy physics community has faced this problem for years.

However, there are several difficulties in working through regional centers. These include the time and expense of travel, inadequacy of the centers for training, and delays in obtaining experimental results. The facilities are also perceived by many to foster conservative science because the time and expense involved in their use creates a reluctance to undertake high-risk experiments. The centers are young, and some of their problems can be ameliorated; others, however, are inherent to regionalization.

In creating new programs, the choice of providing instruments on an individual, university-shared, or regional basis must be carefully evaluated in terms of the trade-off between such factors as instrument cost, expense of time and travel, and the flexibility and vitality of laboratory-based research.

Recommendations

Identification of the causes for deterioration in the quality of university research instrumentation suggests policies that could rectify the situation. Federal policy for the support of research instrumentation requires new funding mechanisms emphasizing flexibility as well as additional funding. We propose the following funding strategy:

1) *Strengthen instrumentation funding in the project system*. Program managers are generally well aware of instrumentation funding problems but are forced to make unsatisfactory compromises due to limited resources. Increased support through individual research grants and contracts is needed. This would alleviate many of the problems documented here. To accomplish this, the size of individual awards must be increased and a larger percentage of funds allocated to the development, acquisition, and maintenance of instruments. Instrument sharing must be encouraged, and regulatory barriers to the pooling of resources must be eliminated.

However, the project system is not designed to meet the special problems of acquisition of expensive (usually shared) instruments, nor does it effectively address problems such as the funding of departmental support facilities and staff, start-up funds, and matching requirements. The system lacks the flexibility to allow researchers and their institutions to meet unexpected local needs and seize opportunities. While it is, and should remain, the primary mechanism for the support of instrumentation, the project system cannot meet the full range of instrumentation needs by itself even if additional funds are provided.

2) *Expand special programs for funding instrumentation*. Expansion of the special funding programs, with provisions to ease the financial burden on institutions forced to meet stringent matching requirements, is a second important means to increase the level of instrumentation funding. University contributions toward the housing, operation, and maintenance of instruments should be considered part of the matching requirement. This would provide not only a means of upgrading major instruments but also ensure their continued availability.

3) *Encourage increased industrial support for university instrumentation*. Industry is dependent on universitites to train its scientists and engineers. To conduct training at the frontiers of science, universities need state-of-the-art instrumentation. Industry can support university research and training programs by providing essential modern instrumentation or funds for its acquisition. The federal government should develop incentives to encourage such industrial support. While industrial support can play an important role in the acquisition by universities of state-of-the-art instrumentation, it should be noted that such support would be distributed unevenly across disciplines.

4) *Create in NSF an instrumentation renewal program with flexibility to meet diverse institutional needs*. In our judgment, a carefully designed new program, restricted to instrumentation and directly related needs but allowing local allocation decisions, would be the most effective means of providing the flexible funding required to meet the great diversity of needs that exist across departments and institutions. Instrumentation funds would be awarded to institutions in proportion to the total NSF research support they receive. In that way, these funds would follow the research funds awarded by NSF. The program would operate under the guidance of a university committee of faculty members and research administrators who are in the best position to evaluate the unique instrumentation needs of their institution.

This mechanism would provide a local

source of flexible funds that could help provide start-up money, support instrument acquisitions for senior investigators seeking to branch into new areas, meet matching requirements, fund the facility renovation often required with the acquisition of new instruments, purchase support equipment, meet operation and maintenance costs, and fund departmental support facilities and staff.

The strongest impression arising from our university visits is the diversity of problems confronting different universities and different departments within the same institution. A source of supplemental, flexible funds would allow researchers and their institutions to respond quickly to unanticipated needs, to capitalize on unique local strengths and opportunities, and yet to remain fully accountable for federal research funds. These funds could be used to address all three causes of the decline in university instrumentation in a manner best suited to the local needs of each institution. No other funding mechanism, in our view, would have a more immediate and direct salutary effect.

References and Notes

1. M. Berger and M. J. Cooper, *Science* 204, 1369 (1979).
2. Data were gathered separately for each field. The age distribution of instruments was similar across disciplines; therefore, the data were pooled for presentation.
3. E. von Hipple, *Res. Policy* 5, 212 (1975).
4. B. Smith and J. Karlesky, *The State of Academic Science* (Change Magazine, New Rochelle, N.Y., 1977), p. 168.
5. The NSF recognizes the inflexibility created by regulations, and, working in cooperation with the Association of American Universities, is conducting an experiment in which researchers are delegated the authority to allocate funds among related research projects, except where such allocations would involve a change in project scope or principal investigator. The experiment has been quite successful and is being expanded to more fields and institutions.
6. J. G. Danek, *Diss. Abstr. Int. A* 37-06, 3533 (1976).
7. We are grateful to Jonathan Amy, John Andelin, James Ebert, Oleg Jardetzky, G. Lorimer Miller, David Robinson, and Richard Werthamer for their dedicated work and sound advice. We greatly appreciate the cooperation we received from numerous administrators, department heads, faculty, managers, and researchers. The study on which this article is based was conducted pursuant to NSF contract C-PRM-7925829; however, the views expressed in this article do not necessarily represent those of the NSF.

STATEMENT OF BERNARD P. SAGIK, VICE PRESIDENT FOR ACADEMIC AFFAIRS, DREXEL UNIVERSITY

Senator GARN. Now I would like to call up Bernard Sagik, who has already been introduced.

If you will excuse me, I have to leave for a few minutes in order to testify in front of another committee. Please go ahead with your testimony and I will be back as soon as I can. Thank you very much.

Mr. SAGIK. Thank you, Mr. Chairman.

I am representing Drexel University, a private, nonsectarian, coeducational, technologically oriented institution which, since its founding in 1891, has stressed sound training in practical fields. As a means of achieving these goals, Drexel has pioneered in cooperative education for over 60 years. It was, as a matter of fact, a Drexel student who documented the Saturn rings that were transmitted by *Voyager*.

SELF-HELP PROGRAM

In all disciplines at Drexel, our 7,000 day undergraduates spend from 3 to 7 quarters working away from campus after the freshman year. Over 1,400 employing companies and agencies are involved in this effort. Ninety-five percent of Drexel's undergraduates, after the freshman year, earn nearly $20 million annually toward their own cost of education. This supplements the university-administered $15 million. Given some financial aid in their first year and a half, Drexel's students become major financial contributors to the educational process thereafter.

The importance of this fact is underlined by a family income analysis showing about 75 percent of our students come from families whose annual income is less than $24,000 and 90 percent from families with less than $30,000 annual income.

This self-help attitude pervades the institution. Colleges and departments are encouraged in their efforts to acquire advanced equipment by institutional matching funds. Thus, we will acquire a $110,000 NMR apparatus for use by a new polymer scientist in the chemistry department in just this fashion this summer.

We submitted a CAUSE proposal to NSF on behalf of the electrical and computer engineering department last fall. In it we pledged to provide nearly $500,000 in advanced equipment for education in computer-aided design. If funded, the Government's share of this proposal would provide initial faculty support to develop the necessary software and interface it with the currently available material. Drexel would continue faculty support after the grant's expiration. In keeping with Drexel's philosophy, we have obtained a significant industrial contribution toward meeting this department's needs in computer hardware.

During the last complete academic year nearly 23 percent of Drexel's extramurally funded research support came from industrial sources. A significant portion of this was given as institutional research funding, rather than for a specific project, thus enabling the university to continue to upgrade its scientific and engineering instructional and research equipment through such NSF programs as CAUSE and ISEP.

In the 15 years prior to this academic year, Drexel University has received equipment grant funding under various NSF programs totaling more than $557,000. As our part in these projects, we have contributed close to $450,000. We believe these and similar programs are effective precisely because they require recipient institutions to make a contribution.

- NEED FOR INNOVATIVE PROGRAMS OF FACULTY DEVELOPMENT

Finally, I wish to address briefly the growing need for innovative programs of faculty development. We must address the problem of faculty renewal and retraining because this is becoming an increasing area of concern as the number of U.S. graduate student applicants in science and engineering declines and the faculty ages along with the rest of the population.

While it is difficult to measure effectiveness, our own limited experience with industrial leaves suggests that this device can be one means of benefiting university faculties in areas as divergent as accounting all the way to engineering.

Concomitantly, the experience is beneficial to the host corporation which also may be facing personnel freezes. We already utilize as adjuncts many persons employed professionally outside the university. Parenthetically, I would note that Drexel has the only accredited degree program in architecture in the United States staffed wholly by practicing faculty. Inducements to facilitate increased exchanges with industry could include NSF support of regional registries of industrial and university personnel in the program, and contributions to continuing faculty benefits, a direct cost to the universities.

The relationship of Drexel University to its area's industry has been fostered by the cooperative education program. The resulting benefits have determined, obviously, my testimony. Thus, my remarks have been directed toward support of those of NSF's programs which provide opportunities to upgrade scientific and engineering instructional equipment as well as urging favorable consideration of programs aimed at the professional renewal of both university and industrial engineers and scientists.

My comments, although intended to be supportive of Drexel's special approach to science and engineering education, are not intended to solicit any detailed legislatively mandated programs. On the contrary, we earnestly hope that the Congress will encourage NSF to use its administrative talents, with some flexibility, to fund programs supportive of the needs of American science and engineering while staying within the final budget authorized.

Thank you. I appreciate the opportunity you have given me to testify.

Mr. BERGER [presiding]. Thank you very much for your testimony. As you know, NSF has maintained a strong interest in the equipment area and has had several proposals in the last 2 or 3 years dealing specifically with that problem. These proposals are all under review of this subcommittee. So we appreciate your comments concerning this issue.

[The information follows:]

APPENDIX I

FIELDS OF COLLEGE STUDY PLANNED BY HIGH SCHOOL SENIORS

	1980	1972
Business	22%	13%
Engineering	10%	5%
Health services	8%	12%
Preprofessional	8%	—
Education	6%	12%
Computer and information science	5%	2%
Social sciences	8%	17%
Art	4%	3%
Communications	4%	2%
Vocational or technical	3%	3%
Biological sciences	3%	10%
Agriculture	2%	3%
Architecture	2%	2%
English	2%	3%
Home economics	2%	2%
Music	2%	3%
Physical science	2%	3%
Foreign language	1%	1%
Mathematics	1%	2%
Philosophy or religion	1%	1%
Other fields	4%	0.5%

1980 SENIORS' EDUCATIONAL EXPECTATIONS AND PLANS TO USE FINANCIAL AID

	All seniors	Socio-economic status †		
		Low	Middle	High
College				
Less than 2 years	3%	3%	3%	1%
2 years or more	12%	12%	14%	9%
4-year or 5-year degree	26%	16%	25%	37%
Master's degree	11%	5%	9%	22%
Ph.D. or professional degree	9%	5%	7%	17%
Vocational, trade, or business school				
Less than 2 years	8%	11%	9%	2%
2 years or more	11%	14%	13%	6%
High-school graduation or less	20%	34%	19%	5%
Scholarships and grants				
Federal	43%	68%	48%	24%
Nonfederal	42%	46%	44%	38%
Total	59%	76%	63%	46%
Loans				
Federal	21%	25%	22%	17%
Nonfederal	34%	37%	36%	29%
Total	40%	44%	42%	35%
Work aid	32%	46%	33%	24%
All financial aid				
Federal	58%	78%	63%	42%
Nonfederal	56%	60%	59%	50%
Total	73%	87%	76%	62%

—Comparable figure for 1972 not available

† The measure of socio-economic status includes family income, parents education, and father's occupation

APPENDIX II

UNIT	ANTICIPATED ENROLLMENT	% TOTAL
Nesbitt (Home Economics, Design, Food & Nut., Human Behavior & Development)	140	8
Business	597	35
Engineering	708*	41**
Science	268*	16**
Total	1713	100

* 368 of the anticipated 863 engineering and science freshman have elected Mathematics and Computer Science (MCS) or Electrical and Computer Engineering (ECE)

** 43% of Engineering and Science freshmen in 1981-82 will be registered in ECE or MCS

APPENDIX III

The Ranking of U.S. Engineering Schools

Drexel ranked 11th among 113 private institutions across the nation in the number of degrees granted in engineering during 1980, according to the Engineering Manpower Commission of the American Association of Engineering Societies. A total of 520 degrees were awarded at Drexel in 1980; 397 bachelor's, 115 master's and 8 doctoral degrees. Drexel's standing is up three places from last year's rank of 14th.

Heading the list of private institutions cited by the Engineering Manpower Commission was the Massachusetts Institute of Technology, which granted a total of 1426 engineering degrees in 1980. M.I.T. was followed by Stanford University, Rensselaer Polytechnic Institute, Polytechnic Institute of New York and Cornell University. Completing the top ten entries on the list were the University of Southern California, the University of Pittsburgh, Northeastern University, Clarkson University and Lehigh University.

STATEMENT OF JAMES L. REVEAL, ASSOCIATE PROFESSOR OF BOTANY, UNIVERSITY OF MARYLAND

Mr. BERGER. The next witness is Dr. James Reveal. Welcome to the subcommittee.

Mr. REVEAL. Thank you, sir.

Mr. BERGER. Senator Garn will be joining us as soon as he finishes testifying at another subcommittee. So why don't you proceed with your testimony.

Mr. REVEAL. My name is Dr. James L. Reveal. I am cochairman of the American Society of Plant Taxonomists' Public Policy Committee. This society, long recognized in the United States as the principal national organization for the study of plant classification, is concerned about future funding for the National Science Foundation and wishes to thank you, members of your subcommittee, and staff for allowing us to express our views at this time.

Although the study of plants is an old one, the uniform naming of plants on a worldwide basis under a set of internationally determined rules is a modern innovation. Since 1753, the naming of plants has been done under such an agreement, and botanical scientists are among the Nation's and the world's best known explorers.

During the formative years of the United States, Thomas Jefferson encouraged botanical explorations, sending his own secretary, Meriwether Lewis, of Lewis and Clark fame, to Philadelphia to be trained in plant collecting. The history of the Western United States is rich with the adventures of botanists who came in search of plants, most of them as members of Government expeditions.

With the growth of the university system in the West, professors of botany explored the more remote regions, discovering and naming new plants, almost always with support from experiment station funds granted to the States by the Federal Government.

BOTANICAL EXPLORATION SUPPORTED BY NSF

Since the 1950's, with the advent of the National Science Foundation, almost all botanical exploration has been done with the exclusive support of the Foundation. Gone today are the once abundant funding resources at the State and Federal levels which supported systematic botany. This has not been due to any change of policy but solely to the success of the National Science Foundation and its full and adequate support of taxonomic research.

Over the last 30 or so years, plant taxonomic studies have grown in sophistication. We now know more about plant evolution and genetics, interrelationships between plants and their environment, and their distribution on Earth. than ever before. Similarly, more has been published about the naming, classification, and identification of plants—plant taxonomy. if you will—than ever before. We have a far better understanding of medicinal plants, plants of agricultural importance, and those which are rare and unique to but a few locations in the world. All of this has been the result of detailed studies by plant taxonomists supported by funds from the National Science Foundation.

My own efforts—in collaboration with others—to produce a multivolumed illustrated flora of the intermountain region, that portion of the Western United States between the Sierra Nevada and the Rocky Mountains, has been made possible by NSF grants.

DESTRUCTION OF NEW WORLD TROPICAL FORESTS

As we look to the future, we see that we have much to do in our field of research. As the National Academy of Sciences has stated in a report on the needs for biological research in the tropics, the destruction of New World tropical forests is causing more extinction of unique plants each day than taxonomists can find and name in a year.

We cannot begin to imagine what potentially valuable plants of agricultural, medicinal, or economic importance are forever being lost to mankind as a result of this destruction. Without immediate plant surveys of the native tropical vegetation as called for in the Academy's report, we may never be able to find those critical plants that just might be the key to solving one or more human problems. To aid in these investigations of the tropics, an NSF workshop report has recently proposed that a tropical biology unit be established within the Foundation and that some $11 million be committed annually to biological research in the tropics.

The United States lacks a national flora. There is one for Europe, one for the Soviet Union, numerous countries in Latin and South America, Canada, many parts of Africa, Japan, and so forth. Even the People's Republic of China is now working on a national flora. Yet, while American taxonomists contribute their time and expertise to national flora projects elsewhere in the world, there is no such flora for the whole of the United States. The reason is a lack of long-term funding and congressional direction to support the production of a national flora.

The training of young taxonomists, as with all scientists, requires early educational support in the scientific fields. The members of the American Society of Plant Taxonomists are distressed to see the proposal to reduce funding for the science education arm of the Foundation. We see the value of education and training of young minds to be inquisitive about living things around them. Even so, the training of educated men and women beyond the doctoral degree is necessary.

The workshop report calls for systematic research associates, postdoctoral opportunities, and advanced research positions for recognized biologists be established. New, as well as continued, funding in the directorate for science and engineering education and elsewhere in NSF can make this possible. The House of Representatives proposal to continue the activities of science education at NSF is strongly supported by the society, and we urge the Senate to accept the House version for the directorate for science and engineering education.

MODERN RESEARCH EQUIPMENT NEEDED

If we are to have a sound and active scientific program in the United States, we must have equipment and facilities. For plant taxonomists, these are minimal. Yet we realize that science as a whole is now suffering desperately from the lack of modern research equipment. Many of us have long urged the Congress to support a program of direct replacement funding for research equipment in university laboratories. This program has been supported in the past, but it has received no support from the current administration.

While this may be a convenient, short-term solution to an immediate budgetary problem, the basic needs will not go away. Outdated equipment will have to be replaced, and soon, or science in this country will fall farther behind other nations in both basic and applied research.

We urge this subcommittee to review the original NSF proposals for equipment replacement funding. This will require a very modest increase in the level of 1982 funding for the Foundation above that already proposed by the Congress and administration to assure a healthy scientific community in the United States.

Finally, Mr. Chairman, I would like to take this opportunity to request that you place in the committee's files a report entitled, "Trends, Priorities and Needs in Systematic Biology: A Report to the Systematic Biology Program of the National Science Foundation," edited by Dr. Tod F. Stuessy and Dr. Keith S. Thomson, and just published by the Association of Systematics Collections.

Thank you, Mr. Chairman.

Mr. BERGER. Thank you very much for your testimony. We will be happy to place the report in the committee's files.

STATEMENT OF FELIX M. BECK, CHAIRMAN OF THE BOARD, MARGARETTEN & CO., INC., NEW JERSEY, MORTGAGE BANKERS ASSOCIATION OF AMERICA

ACCOMPANIED BY:

SHARON M. CANAVAN, ASSOCIATE LEGISLATIVE COUNSEL

BURTON C. WOOD, SENIOR VICE PRESIDENT AND LEGISLATIVE COUNSEL

PREPARED STATEMENT

Mr. BERGER. Mr. Beck, are you here?

Mr. BECK. Yes.

Mr. BERGER. You have a rather lengthy statement. If you would provide a summary, we will place your entire statement in the record.

[The statement follows:]

STATEMENT OF FELIX M. BECK, MORTGAGE BANKERS ASSOCIATION OF AMERICA

Mr. Chairman and Members of the Subcommittee, my name is Felix M. Beck. I am Chairman of the Board of Margaretten and Company, Inc. located in Perth Amboy, New Jersey. I serve as Chairman of the Legislative Committee of the Mortgage Bankers Association of America.* MBA is the trade association of the Nation's mortgage banking industry. Accompanying me is Sharon M. Canavan, MBA's Associate Legislative Counsel.

We appreciate the opportunity to appear before you today to testify on the appropriations for FY 1982 for the Department of Housing and Urban Development (HUD). Our comments will focus on the disruptive effects of setting ceilings on the non-subsidized, user-fee supported Federal Housing Administration (FHA) insurance and Government National Mortgage Association (GNMA) guaranty programs. We will also comment briefly on the funding proposals for the GNMA Tandem program, as well as other appropriations proposals.

ECONOMIC OUTLOOK

Economic activity during 1981 is proving to be very similar to that experienced in 1980. Interest rates began the year at all time record levels and have stayed high through the first quarter. Interest rates, after a run up in April and May, could decline through September, but they should rise during the last few months of the year. The level of

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*The Mortgage Bankers Association of America is a nationwide organization devoted exclusively to the field of mortgage and real estate finance. MBA's membership is comprised of mortgage originators, mortgage investors, and a variety of industry related firms. Mortgage banking firms, which make up the largest portion of the total membership, engage directly in originating, financing, selling, and servicing real estate investment portfolios. Members include:

- Mortgage Banking Companies
- Mortgage Insurance Companies
- Life Insurance Companies
- Commercial Banks
- Mutual Savings Banks
- Savings and Loan Associations
- Pension Funds
- Mortgage Brokers
- Title Companies
- State Housing Agencies
- Investment Bankers
- Real Estate Investment Trusts

interest rates at the bottom of the 1981 cycle is likely to exceed 13 percent for both short- and long-term debt.

Inflation, which has been running at double digit levels for some time, is not likely to show significant improvement during 1981, or even during 1982. The Administration's forecast of an eight percent inflation rate during 1982 is not only optimistic, but even if achieved, remains high. As long as inflation remains at historically high levels, so will interest rates.

Growth in real economic activity, which remained below three percent during 1980, will stay below that level for 1981. In terms of housing construction, housing starts were slightly below 1.3 million in 1980, and are expected to remain near or below that level during 1981. While housing starts of 1.3 million are not low by historical levels, these numbers are not high enough to keep pace with the increased housing demands being generated by the post World War II baby boom. As a result, housing prices continue to climb rapidly and are exacerbating the housing affordability problems facing millions of American families.

In previous periods of slow economic growth, this Nation has looked toward the housing industry as a source of renewal, with new housing starts expanding to stimulate a strong recovery. Housing starts hit about 2 million units in 1978 before falling to 1.75 million in 1979 and just 1.3 million starts last year. Most forecasters indicate that housing starts need to average nearly 2.1 to 2.2 million units annually during the decade of the 1980's in order to meet the burgeoning demands, especially those of first-time homebuyers. Thus, a backlog of potential demand for new construction is inexorably building.

Mortgage interest rates are not likely to fall below 13 percent during the next two years. At the same time, the strong competition for savings dollars will continue to leave thrift institutions strapped for liquidity and under continued earnings pressure. Because the capital markets will become an increasingly important source of residential mortgage credit, the development of secondary mortgage market sources of funds gains evermore importance.

The tremendous demand for housing, both teamed with, and contributing to continued inflation in house prices, will detonate mortgage and capital markets in the decade of the

1980s. The volume of funds necessary for future mortgage financing will be expanding, requiring further radical restructuring of the mortgage markets.

CEILINGS ON FHA INSURANCE AND GNMA GUARANTY PROGRAMS

MBA strongly supports the role of FHA, which, in a working partnership between the government and private enterprise, has successfully delivered housing and mortgage finance to American families for nearly fifty years. MBA opposes the institution of limitations on the non-subsidized, user-fee supported FHA mortgage insurance and GNMA Mortgage-Backed Security (MBS) programs. The institution of these limits has been characterized by some as the prelude to phasing out FHA, or to allocating the non-subsidized FHA programs to geographic or neighborhood areas that are underserved by private mortgage insurance companies. Before such a fundamental redirection is taken, the issue should be fully explored. MBA urges that a study should be undertaken by the Congressional Budget Office to determine the role in mortgage finance that FHA and GNMA play, and the future direction of these programs. This study should also focus on the ability and capacity of conventional mortgage insurers to handle the volume and type of loans currently being made with FHA insurance.

The Administration in its FY 1982 budget has proposed to limit FHA insuring authority to $35 billion and GNMA guarantee authority to $64 billion. In H Con Res 115, the First Concurrent Resolution for FY 1982, the House and Senate have agreed on an increase in the Administration's proposed limits of $6 billion for FHA to a total of $41 billion, and $5.3 billion for GNMA for a total of $69.5 billion.

MBA strongly opposes the imposition of any credit budget limits on the non-subsidized FHA and the GNMA MBS programs. In order to measure the size of these programs, targets, rather than inflexible ceilings, could serve a useful purpose. If Congress does establish commitment authority limits on these programs, nonetheless, such limits should be high enough to allow the programs to respond flexibly to demand, as they were designed, should interest rates decline enough to generate the demand that high interest rates have frustrated recently.

In this context, MBA suggests that flexibility is an essential ingredient of the enforcement mechanism. The language contained in H Con Res 115, which states that it is the sense of the Congress that the credit budget shall be limited through the appropriations process, offers Congress a sufficient opportunity to enforce the credit budget limits without procedurally restraining the ability of Congress to respond should limitations prove to be restrictive. MBA urges the Subcommittee to recommend inclusion of the same language as that which appeared in the full House Appropriations Committee's report last year, stating that, "The Department (HUD) is directed to notify the Committee promptly if it appears the limitation will require a moratorium on commitments." (See H. Rpt. 96-1114, p. 8). Such language would assure that this Subcommittee could take appropriate actions should the credit budget limitations be approached.

A ceiling set high enough to accommodate demand recognizes the function and importance of these programs, that have helped to deliver affordable mortgage finance to moderate- and middle-income homebuyers, many of whom are young, presumably, first time purchasers. MBA urges this Subcommittee to adopt the limits contained in H Con Res 115 of $41 billion for FHA and $69.5 billion for GNMA-MBS.

The Administration, in its justification for limitations on the non-subsidized FHA and GNMA MBS programs, has stated that these programs "accounted for over 55 percent of the $171 billion of total new commitments issued to guarantee loans by the Federal Government in 1980." (See Additional Details on Budget Savings for FY 1982 Budget Revisions, April 1981, page 185). In FY 1980, gross commitments under FHA totalled $30.585 billion and gross commitments for the GNMA MBS program totalled $63.165 billion, accounting for $93.75 billion in gross commitment authority, which is over 55 percent of the $171 billion figure noted above.

However, the gross commitment figures for these two programs are not reliable indicators of actual FHA insurance written and GNMA guarantees issued. There is significant "fall-out" in these programs between the commitment stage and the point when FHA insurance is written and GNMA guarantees are issued. In FY 1980, FHA wrote $23.344 billion of insurance and GNMA guaranteed $22.996 billion worth of mortgage-backed securities.

The reason for the wide disparity between commitments and final insurance and guarantees is that these programs are designed to operate flexibly as "market hedges" for borrowers, builders, and lenders. If no other form of mortgage insurance or no other secondary market placement is available on preferable terms or at more desirable rates, then a person will opt to use the FHA or GNMA MBS programs, and only then is final insurance written or securities issued.

Additionally, it should be noted that the figure for GNMA guarantees issued reflects secondary guarantee activity rather than primary. GNMA MBSs are backed by pools of FHA and VA mortgages. Thus, the dollar volume figure for GNMA MBSs does not represent additional contingent liabilities for the Federal government, nor does it represent additional Federal activity in the Nation's credit markets above and beyond the totals for FHA-VA loans. The alarms that are being sounded about the Federal Government's overwhelming exposure in the area of mortgage finance are simply overstating that involvement in real terms.

Additionally, MBA is concerned that the ceilings Congress sets, even if they are established at the limits of projected demand, may nonetheless, prove insufficient. In a review of the estimates over the past seven years, which are estimated two years in advance of the actual fiscal year, it is evident that these estimates have been consistently understated. This points out the problem of trying to estimate interest rates, housing activity, and the possibility of increased FHA mortgage limits two years in advance.

The following Table 1 tracks gross and net commitments, estimated and actual, for the FHA insured programs and the GNMA MBS program over the past seven years, and illustrates the uncertainty in this process.

Table 1

LOAN GUARANTEE COMMITMENTS AND LOANS GUARANTEED

(in millions of dollars)

Fiscal Year	Gross FHA Commitments	Net FHA Guaranteed	Gross GNMA Commitments	Net GNMA Issuances
FY 1982 BUDGET				
1982 Estimate	44,284	31,840	72,360	31,360
1981 Re-estimate	39,232	25,911	72,000	31,000
1980 Actual	30,585	23,344	63,165	22,996
FY 1981 BUDGET				
1981 Estimate	34,155	24,288	53,000	25,000
1980 Re-estimate	31,514	21,695	47,200	20,500
1979 Actual	33,976	21,081	41,750	22,176

LOAN GUARANTEE COMMITMENTS AND LOANS GUARANTEED

(in millions of dollars)

Fiscal Year	Gross FHA Commitments	Net FHA Guaranteed	Gross GNMA Commitments	Net GNMA Issuances
FY 1980 BUDGET				
1980 Estimate	27,705	18,601	16,500	16,500
1979 Re-estimate	24,656	16,450	15,000	15,000
1978 Actual	23,953	14,292	15,194	15,194
FY 1979 BUDGET				
1979 Estimate	24,709	18,231	15,500	15,500
1978 Re-estimate	20,262	13,384	16,000	16,000
1977 Actual	19,776	12,929	17,019	17,019
FY 1978 BUDGET				
1978 Estimate	16,095	16,095	10,000	10,000
1977 Re-estimate	11,594	11,594	10,000	10,000
1976 Actual	8,316	8,316	8,999	8,999
FY 1977 BUDGET				
1977 Estimate	15,161	4,905	10,000	10,000
1976 Re-estimate	12,056	6,436	10,000	10,000
1975 Actual	11,221	6,130	5,905	5,905
FY 1976 BUDGET				
1976 Estimate	6,093	7,731	7,500	7,500
1975 Re-estimate	5,102	5,663	5,100	5,100
1974 Actual	5,638	5,712	4,125	4,125

Source: Special Analysis, Federal Budget

Actuarial Soundness and the Self-Supporting Nature of Non-Subsidized FHA Insured and GNMA Guaranteed MBS Programs

Both the non-subsidized FHA mortgage insurance programs and the GNMA MBS guaranty program operate to assure a constant flow of mortgage credit, especially during credit short periods, at no cost to the Federal government. The FHA Mutual Mortgage Insurance Fund (MMIF) includes the FHA Section 203, 244, and 245 programs. These are non-subsidized programs that are actuarially sound. That is, program losses and claims do not exceed the mortgage insurance premiums collected from borrowers. According to HUD, these programs, as well as the Section 234 program under the FHA General Insurance Fund, are "actuarially sound by any measure." User-fees—the income obtained from mortgage insurance premium payments—cover interest on debentures, losses on acquired properties, as well as administrative costs including, salaries, expenses, overhead, rent, etc.

The MMIF has historically been profitable. The net income is used to build up reserves and to pay "dividends" to borrowers who have successfully paid off their mortgages. According to estimates projected in the FY 1982 Revised Budget compiled by the Office of Managment and Budget (OMB), the Treasury will forego savings totalling $363 million through FY 1986 if program commitment levels are artificially restricted by credit budget ceilings to a constant $35 billion ceiling (see FY 1982 Budget Provisions, dated March 10, 1981, Appendix C, page 149). These savings result from the investment of the MMIF Reserve Funds, totalling $2.6 billion at the end of FY 1980, in U.S. Government securities. To the extent that the MMIF invests in government securities, the U.S. Treasury limits its borrowings in private capital markets, and thereby pays a lower interest rate on that portion of the Federal debt.

In contrast, the reserves accumulated by private mortgage insurance compaines are tax-free, under Internal Revenue Code Section 832(e), and thus represent a drain on revenues to the U.S. Treasury. These aggregated reserves totalled $834 million, as of December 31, 1980, according to the Mortgage Insurance Companies of America (MICA).

The GNMA MBS program incurred a negative net income only in 1970, its startup year. Since that time, it has been profitable. Commitment and guaranty user-fees pay operating expenses, including, salaries, rent, overhead, etc.; pay guaranty claims; and are used to establish a substantial reserve fund to cover future losses. The GNMA MBS Reserve Fund now contains approximately $240 million in reserves. If the GNMA MBS program is restricted to the proposed levels of $64 billion annually through FY 1986, the Treasury will forego savings, as explained above, totalling $24 million.

The FHA Non-Subsidized and GNMA MBS Programs Do Not Restrain Expansion of Conventional Mortgage Insurance Activities

An important point to emphasize is that FHA acts as the insurer of last resort in offering its non-subsidized programs on a demand basis. There are no income or age limitations imposed--the only restriction is the maximum mortgage amount, which serves to factor out higher income families who prefer to buy more expensive homes. FHA can be characterized as the insurer of last resort, because it does not offer consumers as attractive a product as that ordinarily offered by conventional mortgage insurance companies. The

FHA non-subsidized programs require a significantly higher mortgage insurance premium for the entire term of the loan, whereas lenders often allow mortgage insurance to lapse on conventional loans once a borrower has sufficient equity in the home to reduce the risk of default. FHA also has a longer processing time, necessitated by underwriting reviews, and involves more redtape, as it demands appraisals, certain minimum property standards, etc., where conventional mortgage insurance approval can be obtained much quicker. Therefore, FHA can hardly be characterized as having a competitive edge.

The consumer who is interested in less costly, quicker service will naturally turn to conventional mortgage insurance, but only so long as a conventional loan itself is available on terms that the consumer can afford. It is this facet that makes FHA the insurer of last resort in many instances. If lenders were making conventional loans with low downpayments at all times, in all geographic or neighborhood areas, then consumers would choose, in most circumstances, a conventional loan with private mortgage insurance.

The important argument here is that FHA does not interfere with the capability of private mortgage insurers to operate in all areas at all times. Conventional mortgage insurers claim that they offer low downpayment loans on an increasingly competitive basis. If that is true in all areas and at all points in the economic cycle, FHA non-subsidized programs would represent no barrier whatsoever to the further expansion of conventional mortgage insurance activity.

A principal inducement offered under the FHA programs is the ready availability of the GNMA MBS. The GNMA Mortgage-Backed Security program was established in 1968 to introduce alternative sources of capital into the secondary mortgage markets. The secondary market is especially important in credit short areas, as a means of importing mortgage money to local markets, and mobilizing money on a nationwide basis. One of the ways lenders assure themselves of a source of permanent financing for their FHA and Veterans Administration (VA) loans is to obtain a commitment to guarantee a mortgage-backed security from GNMA. For a variety of reasons, such as fluctuations in market interest rates or lower than anticipated volume, mortgage bankers sometimes cannot use each GNMA conditional commitment that has been obtained. This happens particularly during times of volatile market conditions such as we are presently experiencing. Mortgage finance has come to depend upon the accessibility of secondary market investment, especially today, as traditional mortgage lenders have become increasingly unable to provide sufficient mortgage credit to satisfy the demands of the marketplace from their internally generated sources.

With the role of the traditional sources of capital for loans diminishing, the continued operation of the GNMA MBS as a demand-oriented program available as a vehicle for the sale of mortgages, is more important than ever. Authorized GNMA MBS issuers pool a minimum of $1 million in FHA and VA mortgages and obtain a guaranteed security from GNMA that is backed by those mortgages. The issuer sells the guaranteed security to an investor and then services the mortgages by collecting monthly payments and forwarding them to the investor. Issuers are obligated to advance the monthly payments to investors from their own funds if the borrowers fail to make their payments. GNMA guarantees the performance of the issuer and charges the issuer an initial and annual fee for the guaranty. In turn, these GNMA MBSs are backed by the FHA-insured and VA-guaranteed loans. A default by an issuer normally does not result in a loss to GNMA. In fact, losses have rarely occurred in the GNMA MBS program.

The FHA and GNMA MBS programs operate as a hedge for lenders and builders who must operate in all economic cycles in order to survive financially. However, GNMA is not the sole government backed or supported secondary marketing entity. The secondary mortgage market is permeated by a Federal presence. The Federal National Mortgage Association (FNMA) and the Federal Home Loan Mortgage Corporation (FHLMC) are also tied to the Federal government in various ways--through a line of credit to the U.S. Treasury, tax exemptions, or simply the ability to sell securities as a Federal entity. These entities each operate to fulfill a specific, Congressionally mandated purpose, and they function to improve the efficiency of housing finance and thereby to achieve the goal of fostering homeownership by American families. As FNMA and FHLMC expand their capabilities in the conventional sector, it is almost certain that the GNMA MBS program, which has in many respects served as the role model for development of securities to tap the capital markets for mortgage finance, will naturally diminish in importance. But this development will take time, and must occur naturally in order to avoid market disruptions.

MBA certainly supports the expansion of a conventional secondary market, but there remain a number of problems to resolve in this area. The conventional mortgage-backed security is a relatively recent innovation, having had a mortgage pool balance of only $1.1

billion at the end of 1978. However, the conventional mortgage-backed security should not be underestimated. By the end of 1980's second quarter, the outstanding balance of such pools had grown to over $6 billion.

A necessary requirement for the development of an efficient nationwide market in conventional mortgage-backed securities is that the market be large. Security dealers typically "make the market" in various types of securities. In order for security dealers to incur the necessary set-up costs for developing a market, they must be assured that there will be enough volume in that security to warrant their investment. If the market is relatively small, which occurs when each security possesses different features, the dealers will either not develop the market, or will impose transaction costs that will be large and possibly prohibitive. Therefore, the development of the conventional MBS market is not being delayed because of the growth and success of the GNMA MBS program, but is being restricted due to the lack of uniformity in the conventional loan market itself. In fact, an enlarged GNMA security program makes it more likely that the conventional mortgage backed security market will develop because it spurs competition. The FHLMC is currently studying a proposal to alter its operation to pattern itself after that of GNMA with the exception that the FHLMC's program would deal only with conventional mortgages. However, the development of these secondary markets is a complicated process that will require years of evolution and cannot be forced to develop by mandate.

Impact of Credit Budget Limits On Veterans Administration Home Loan Guaranty Program

While the current Administration, like the previous Administration, has not proposed to limit the veterans' home loan guaranty programs, a reduction in GNMA-MBS activity could very well restrict VA loan activity. If the credit budget limits for the GNMA MBS program are reached, then the principal secondary market investment source for VA loans will shut down. This could drastically curtail or even terminate VA loan originations. Last year, this Subcommittee set no ceiling for the VA home loan program, recognizing its entitlement nature. However, a ceiling on the GNMA MBS program, if the limits are reached, could translate into a limit on the VA home loan program, even if such an effect is unintended.

In the past five years, from one-half to three-fourths of all VA loans have been placed in GNMA MBS pools. Constraints on funds available for VA loans will reduce the effectiveness of the program, cause some veterans to be denied their entitlement, and increase mortgage costs for veterans. Additionally, the developing attraction of non-traditional sources of capital to the VA mortgage market will be severely hampered.

Through the GNMA MBS, mortgage bankers have been able to attract investors who would otherwise not be interested in purchasing VA and FHA mortgages, but who are willing to purchase a Government-guaranteed, mortgage-backed security. Initially, these new investors in VA mortgages were important, but essentially supplementary, to the traditional capital sources for VA mortgages--the thrift institutions and the FNMA. However, since 1976, the GNMA MBS has been the dominant means of VA loan sales in the secondary market. If GNMA MBS activity is curtailed, it is extremely unlikely that thrift institutions (mutual savings banks and savings and loan associations), which have traditionally purchased VA loans, would again purchase significant numbers of VA-guaranteed loans. The thrift industry is currently in severe financial straits, in large part because earnings from their portfolios of fixed rate, long term loans are well below the interest rates they must certainly pay to attract and hold deposits. The future mortgage activity of thrift institutions is likely to lie in adjustable rate mortgages rather than fixed-rate, long term loans.

The other large institutional purchaser of VA loans, FNMA, is also experiencing financial difficulty. While FNMA hopes to remain in the market, its prices are not nearly as attractive as previously. Prices for FHA and VA loans are lower because they are freely assumable, whereas FNMA now requires due-on-sale or call provisions in all conventional loans it purchases. Sellers are forced to price the loans lower in order to raise the yield to the level set in the FNMA auction, thus requiring a higher number of points. This will probably cause lenders to place even more VA loans in GNMA MBS pools.

The availability of several vehicles for the sale of VA-guaranteed mortgages permits mortgage bankers to go to a number of different capital market investors in search of funds. Unlike thrift institutions that must curtail lending when savings deposit inflows drop off, mortgage bankers can, through their choice of delivery vehicles, shift among capital markets until they secure a supply of lendable funds at the most reasonable price available. Thus, the veteran is assured of the ready availability of funds for VA-guaranteed loans.

The VA home loan program is an entitlement program, the effectiveness of which should not be curtailed by limits on a supporting program, the GNMA MBS, which is vital to its proper functioning.

Mortgage Availability: The Ability of Conventional Markets to Serve the Entire Market

It has been charged that FHA's non-subsidized programs constitute an undue governmental interference in the private marketplace. The FHA mortgage insurance programs represent a working partnership that involves the private sector to the maximum degree possible, while including enough oversight to protect the potential liability of the Federal Government inherent in a full guaranty of principal and interest. Conventional mortgage insurers argue that such enterprises have perfected the concept and that, consequently, the limited role FHA plays in the mortgage market should be phased out, or restricted to only the subsidized markets that mortgage insurance companies are unwilling to enter. MBA believes that the non-subsidized FHA programs provide a valuable benefit to homebuyers, without expending the revenues of the Federal government, and that FHA does not compete with private enterprise, but rather is an insurer of last resort.

While the mortgage insurance companies have vigorously expanded their activities in the marketplace over the last decade, it has become apparent from experience during the two economic downturns in that period that conventional lending is especially vulnerable during these economically troubled periods. FHA lending does not suffer as heavily at such times, because of the availability of the GNMA MBS, which is familiar to, and accepted by, investors.

Currently, the conventional mortgage market is in disarray. Large numbers of thrifts are operating in the red because they must pay savers high short-term rates, while their incomes are dependent on old below-market rate mortgages held as assets. As a result, the thrift industry is focusing on the design of new mortgage instruments that will fluctuate with their costs of funds. They are also diversifying their portfolios by increasing their holdings of assets bearing shorter maturities and selling their new mortgages to investors. However, competition from Treasury debt and inflationary expectations limit the willingness of investors to buy these mortgages. Until the conventional lenders solve their problems, or the secondary market institutions, including FHLMC and FNMA, as well as others, are able to expand their capabilities, it is sophistic to argue that mortgage insurance companies can absorb the FHA activity. The difficulty does not lie with the financial capacity of the mortgage insurance companies—they are able to deliver their product—but they are insurers, not lenders. Conventional lenders and conventional secondary market investors are currently encountering such difficulties that they are unable to provide an affordable, steady stream of mortgage funds.

In the strong markets of 1977 and 1978, FHLMC Participation Certificates (PCs) sold at yields close to, and occasionally lower than GNMA MBSs. Conventionally insured, five percent downpayment mortgages were available to consumers on equal, and occasionally better, terms than FHA-insured mortgages. Unfortunately, this is no longer true. FHLMC's PC program has not been able to maintain its record of sustained growth. FHLMC sales of PCs during 1980 were $2.4 billion—down from $3.9 billion in 1979, and $5.6 billion in 1978. Even the established, more liquid GNMA MBS just barely held its own in 1980, guaranteeing $23 billion, up from $22 billion in 1979.

It is precisely this continuing cyclical instability of the conventional market that underscores the necessity of preserving the FHA and GNMA MBS as demand programs, until these problems are resolved. The FHA non-subsidized programs, with the readily available secondary backing of the GNMA MBS program, serve a vital countercyclical purpose during economic downturns.

As Table 2, following, illustrates, the FHA percentage share of the mortgage markets has expanded during economic downturns (1974-75 and 1979-80) while it has naturally contracted during boom housing years.

TABLE 2

CONVENTIONAL LOANS INSURED BY MORTGAGE INSURANCE COMPANIES (MIC), FHA AND VA INSURED AND GUARANTEED LOANS BY UNIT VOLUME/1-4 FAMILY HOUSING

Year	Conventional MIC	FHA*			VA	Total Loans Insured	FHA as % of Total
		New	Existing	Total			
1970	59,384	55,580	247,798	303,378	167,734	530,496	57 %
1971	163,334	59,133	277,654	336,787	282,278	782,399	43
1972	396,008	58,393	178,323	236,716	370,023	1,002,747	23
1973	499,895	28,940	109,740	138,680	315,509	954,084	14.5
1974**	330,646	22,559	130,300	152,859	309,830	793,335	19
1975**	322,204	35,946	192,594	228,540	299,768	850,512	27
1976	450,810	32,128	200,230	232,358	328,876	1,012,044	23
1977	617,398	42,786	246,386	289,172	389,098	1,295,668	22
1978	695,620	40,409	263,056	303,465	364,543	1,363,628	22
1979**	578,111	62,960	368,013	430,973	356,105	1,365,189	31
1980**	392,808	58,964	289,450	348,414	266,256	1,007,478	34.5

*Includes: Sec. 203(b), 234, 244, and 245 (GPM)

**Boldface indicates periods of restricted mortgage credit.

Source: HUD, 1979 Statistical Yearbook, Survey of Private Mortgage Insurance Activity, FHA Monthly Report of Operations, Veterans Administration. Prepared by the Mortgage Bankers Association of America, April 1981.

Table 2 also illustrates the growing share of the market that conventional mortgage insurers have vigorously pursued and won. But this long term trend contrasts sharply with experience during the last two years, when conventional lenders sharply curtailed lending, in part because the conventional secondary market was unable to accommodate further growth. This problem was not due to weakness or failure on the part of the mortgage insurers, however, who are among the most innovative, aggressive members of the mortgage fraternity. Rather, the difficulty stems from uncertainties in the future form of mortgage instruments, and the ability of secondary markets to fashion a suitable vehicle for long-term investment in conventional mortgages.

MBA believes that the current problems facing the conventional mortgage market can and will be sorted out over the next decade. New alternative mortgage instruments acceptable to the secondary market will be developed, as will a conventional MBS capable of delivering mortgage finance at affordable rates. In 1978, this day appeared close at hand, but with the intervening difficulties of the past two years, even such financial giants as Bank of America, Merrill Lynch, and the Sears group have had to postpone, or scale back, their secondary market activity, and it will take several more years to develop investor understanding and acceptance of the new alternative mortgages and the conduits to deliver them.

MBA is working aggressively with other lenders and with the mortgage insurance industry to develop a conventional mortgage-backed security. We would hope that the conventional mortgage markets will solve these problems by 1982, but unless the conventional market gains the capacity to handle increased demand, there will be a spurt in FHA activity, especially if interest rates decline as the Administration has predicted. Accordingly, if ceilings must be imposed rather than targets set for FHA and GNMA volumes, we urge Congress to set the ceilings on FHA mortgage insurance and GNMA-MBS guarantees at levels sufficient to meet this contingency of potentially strong demand. Failure to do so will interfere with the gradual reduction in long-term rates throughout the economy, while causing totally unnecessary hardship to homebuyers.

Crowding Out

The disappointing industrial performance of the United States over the past five years is a matter of great concern. A few well known economists have pointed to the "explosion" of mortgage credit, arguing that a key factor in the lack of industrial capital formation is that housing has taken a disproportionately large share of available funds. The answer depends on the choice of statistics and periods of comparison. In this case, limiting the comparison to the early seventies versus the late seventies shows that business' share of total capital declined from over 53 percent to slightly less than a quarter of the total funds raised. (See Table 3 on page 20, following.) This compares with a long-term historical share of about 40 percent of total funds raised. Clearly, the percentage of borrowing devoted to business has been cut in half relative to the unusually high levels of the early seventies, and is currently well below its historical average. However, a careful examination of Table 3 reveals that it is not mortgage activity that has "crowded out" business borrowing, but large increases in U.S. Treasury borrowing and other categories that are the cause. Business borrowing's share declined 28.7 percentage points, of which 14.7 percentage points, or over half, was accounted for by an increase in Treasury borrowings. The other half was absorbed by residential mortgages (+6.5 percentage points), consumer credit (+2.9 percentage points), Federal agencies (+1.7 percentage points), state and local government (+1.1 percentage points), and other, mostly foreign, borrowing (+8.8 percentage points).

The failure of business to reindustralize has many complex causes, but increased mortgage activity is not one of them. A closer examination of the years 1975 through 1980 contained in Table 4 indicates that business' share of credit demand has strengthened, even though Government borrowing has expanded. Housing credit has fluctuated, but centered roughly around its 23.1 percent average during the entire post World War II period. While mortgage activity did increase substantially in the late seventies versus the early seventies, both in terms of dollar amount and market share, it merely recaptured its historical share of the market. A bar graph (Table 5) illustrates the expanding and contracting shares of credit demand during the past five years.

The recovery of mortgage finance in the mid-seventies is not particularly the result of a bias toward homeownership, but rather, results from the maturation of the post-World War II baby boom generation. In view of the strong demographic demands of the past five years, and looking forward to the next five years, housing, far from receiving an unfair share of available funds has, and must, maintain its historical market share, roughly one out of every four investment dollars. Since we have already seen serious shortages of housing finance develop "naturally" in recent years, it is frightening to think what housing activity would be like in the future if government made a deliberate effort to direct credit away from housing.

Consumer Benefit

The FHA home loan insurance and GNMA MBS programs have contributed to a percentage of American homeownership that is among the highest worldwide. By offering this assistance on a demand basis where the volume of program activity is determined by consumer need, FHA programs have helped this Nation reach for its asserted goal of providing safe, decent, and sanitary housing for all Americans. GNMA programs have fostered a nationwide secondary mortgage market that has attracted non-traditional sources of private financing, and serves as a model for the eventual development of conventional mortgage-backed securities.

FHA has also made significant contributions toward innovation in mortgage lending. A recent example is the Graduated Payment Mortgage (GPM) program that reduces initial loan payments, thus qualifying more first time homebuyers and younger families whose incomes are expected to rise. FHA has fostered consumer protections by requiring properties to conform to Minimum Property Standards. New technologies in construction and energy-saving techniques have also made substantial headway because FHA has approved these methods and offered financing.

TABLE 3

Composition of Credit Demand
Share of Total Funds Raised by Sector
1946–1978
(in billions)

	Average Annual Funds Raised	Business	Residential Mortgages	Consumer Credit	U.S. Treasury	Federal Agencies	State & Local	Other
1946–1949	$24.4*	48.2%	22.4%	12.0%	%*	0.1%	6.4%	10.9%
1950–1959	36.6	37.4	28.5	9.4	5.8	1.8	12.3	4.8
1960–1969	79.9	36.7	24.4	8.9	5.5	4.0	8.6	11.9
1970–1974	254.7	53.0	16.8	5.5	5.7	5.1	5.8	8.1
1975–1978	351.0	24.3	23.3	8.4	19.0	6.8	6.7	16.9
	Average Share	39.9	23.1	8.8	7.2	3.6	8.0	9.4

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*During the 1946–1949 period the U.S. Treasury loaned funds of $8.63 million. Thus, the share of total funds raised by the other sectors does not take this amount into account.

Source: Federal Reserve Flow of Funds Accounts, Annual Net Flows, December 1980.

Table 4
Trends in the Use of Funds in U.S. Money and Capital Markets (Net New Flows)

Billions of dollars/Calendar Year

	1975	1976	1977	1978	1979	1980P
Government						
State & Local	16.3	17.7	23.9	26.7	19.1	23.2
US Treas	85.8	69.1	57.6	55.1	38.8	79.8
Agency	12.3	19.0	26.7	40.1	51.1	47.1
Mtge Pools	-9.9	-14.5	-19.0	-15.8	-24.0	-21.2
Agency less Mtge Pools	2.4	4.5	7.7	24.3	27.1	25.9
Subtotal	104.5	91.3	89.2	106.1	85.0	128.9
Percentage	48.3%	31.7%	24%	23.7%	19%	32.3%
Business & Agriculture						
Corp Bonds	36.4	37.2	36.1	31.6	32.9	35.6
Stocks	10.6	12.9	4.9	4.7	7.6	15.0
Credit	13.9	12.3	48.9	74.4	96.6	59.9
Non-Res Mtges	15.8	19.7	27.2	33.5	41.9	35.6
Subtotal	49.1	82.1	117.1	144.2	179.0	146.1
Percentage	22.7%	28.4%	31.6%	32.2%	40%	36.6%
Housing						
Res Mtges (includes pools)	41.4	67.3	106.8	115.5	116.7	89.2
Subtotal	41.4	67.3	106.8	115.5	116.7	89.2
Percentage	19.1%	23.3%	28.8%	25.8%	26.0%	22.3%
Other						
Consumer Credit	9.7	25.6	40.6	50.6	44.2	3.1
Other (mostly Foreign)	11.5	21.9	16.9	31.2	22.7	31.7
Subtotal	21.2	47.5	57.5	81.8	66.9	34.8
Percentage	9.8%	16.5%	15.5%	18.3%	14.9%	8.7%
TOTAL	216.2	288.2	370.6	447.6	447.6	399.0

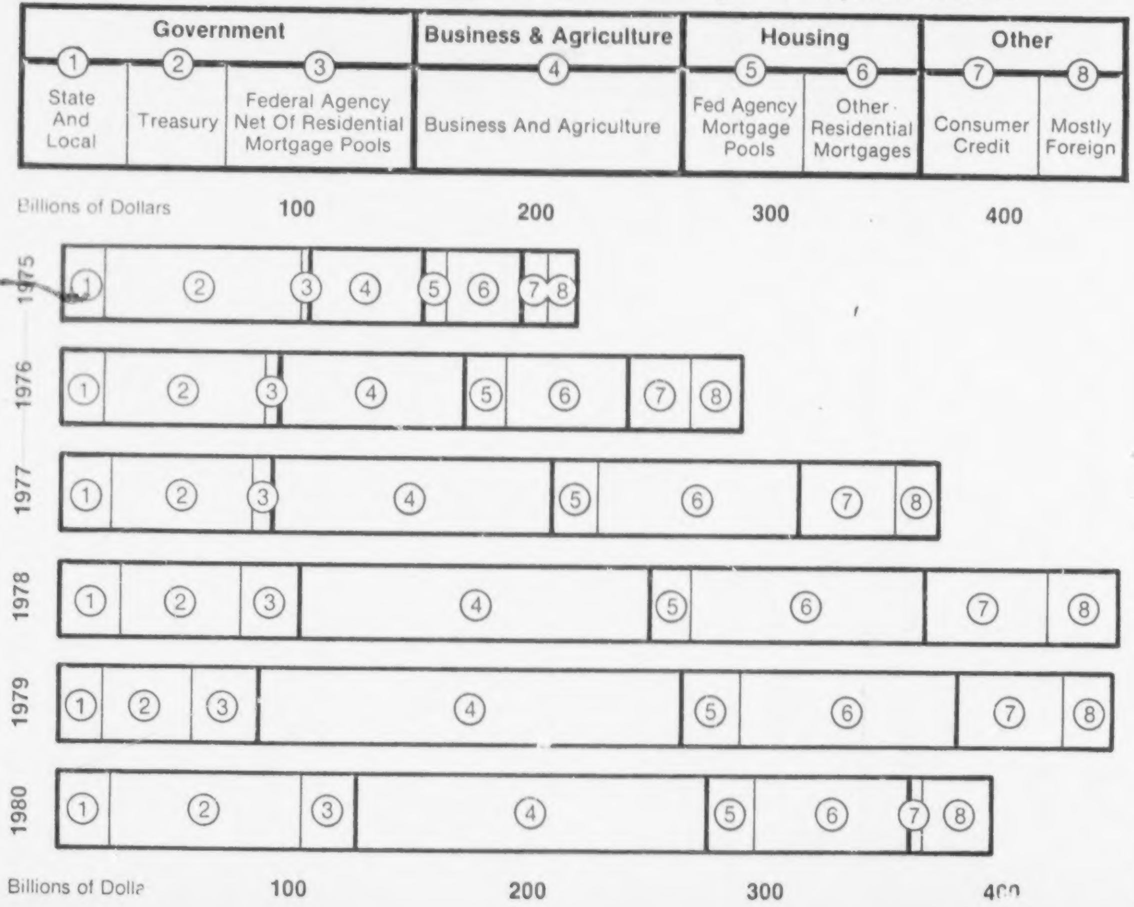
P: Preliminary

Source: Federal Reserve Flow of Funds Accounts IV-80 (February, 1981) Prepared by MBA (March, 1981)

Totals may not add due to rounding.

TABLE 5

Trends In The Use Of Funds In U.S. Money And Capital Markets



Source: Mortgage Bankers Association Of America (April 1981)

These arguments do not presume that conventional mortgage lenders do not apply reasonable construction standards. It is simply that FHA programs, backed by government insurance, have fostered innovative lending and building techniques that are accepted by conventional mortgage lenders only after they have been proven in the FHA market.

Consumer Choice

There are differences between what FHA and individual mortgage insurance companies can offer. FHA imposes a one half percent mortgage insurance premium that offers 100 percent insurance against default and is paid on the declining balance of the loan for the term of the mortgage. The mortgage insurance premium (MIP) on a conventional loan varies by insurer, but it can generally be said that it is less than the fee imposed by FHA, because the default coverage only applies to a specified portion of the loan. Also, mortgage insurance companies often do not impose the fee for the full term of the loan.

The maximum interest rate on an FHA loan is determined by the HUD Secretary, not the free market. Although the HUD Secretary is under a Congressional direction to follow the free market closely, in actuality, the FHA rate often lags behind changes in the free market rate being charged on conventional loans. When this occurs, and interest rates are rising, FHA lenders charge "discount points" in order to bring FHA loans up to market yield requirements. A point is one percent of the mortgage amount. Therefore, although it may appear on its face as if the FHA loan has a preferential interest rate or enjoys some form of indirect subsidy, this is simply not true.

The minimum downpayment requirement for an FHA loan is three percent of the first $25,000 and five percent of the balance. The minimum downpayment requirement for a conventional loan is not a standardized, constant figure, but is determined by the individual lender. When mortgage investment sources are plentiful, downpayment requirements range as low as five percent. In such a market, conventional loans are more attractive to consumers, because the mortgage insurance premiums will be less than FHA premiums, and the interest rates are likely to be comparable.

When there are insufficient or restricted sources of mortgage funds, however, there is a tendency for conventional lenders to increase the downpayment requirement to as much as 20-30 percent, in order to ration available supplies of mortgage funds. Lenders simply stretch available sources of funds, while also according a preference to loans that will carry a lower loan-to-value ratio, and therefore a lesser risk. It must be pointed out that it is the lender, not the individual mortgage insurer, that sets the downpayment requirement. Under such conditions, it is usually buyers of lower-priced homes that are rationed out of the market, because of their inability to meet the harsher terms required by conventional lenders. Because maximum FHA mortgage amounts are limited by statute, and these maximum mortgage amounts are set at the lower end of the price scale, the FHA programs are directed toward that part of the market having the greatest need in periods of tight money.

During economic downturns, when mortgage credit availability is restricted, the consumer, especially the first time homebuyer, has little choice but to rely much more heavily upon the availability of FHA-insured mortgages, with their low downpayment requirements. When low downpayment conventional mortgage loans are sufficiently available, consumers tend to prefer the more attractive deal that conventional loans with private mortgage insurance can offer. Historically, the amount of FHA mortgage insurance written has increased significantly during periods of 'tight' mortgage money, and decreased when mortgage credit availability increased.

MBA and many other mortgage market participants are working, and will continue to press, for the development of a conventional MBS that will be readily accepted by investors, as well as for the development of new types of mortgage instruments designed to respond to change in all financial markets. While some may argue that FHA, because of the readily accessible secondary market provided by the GNMA MBS, has impinged on the conventional market share or stunted the development of the conventional secondary market, the answer to such a charge is that FHA and the GNMA MBS have offered stability in a volatile market and performed a proper countercyclical purpose in easing housing through difficult economic periods. This simply underscores the importance of a workable secondary market—once a conventional MBS is developed, FHA's and GNMA's role during countercyclical downturns will diminish. Until such time, these programs serve a vital function in stabilizing mortgage finance markets, and until an alternative is developed, it would be unwise to disassemble the one market that does work, and easily responds to demand during economic downturns.

OTHER MBA RECOMMENDATIONS

The following are MBA's recommendations with respect to appropriations for the various programs covered by proposed legislation marked up by the Senate Banking Committee, S 1197, entitled "The Housing and Community Development Amendments of 1981."

LOW-INCOME HOUSING

Section 201 of S 1197 provides for funding authorization for FY 1982 for the public housing and Section 8 Housing Assistance programs. MBA supports these programs, but would urge a somewhat higher percentage of new units in the mix between new and existing units.

Section 204 of S 1197 provides for assistance for operating subsidies for troubled multi-family projects suffering problems caused by increased utility expense and inflation. MBA supports this assistance as a necessary aid to low-income families, as well as to preserve existing multi-family housing inventory.

SECTION 235 AMENDMENTS

MBA supports an appropriation for the Section 235 program. We believe that the program is a useful one and merits continuation. Even at a modest level of funding, such as that proposed by the Housing Subcommittee of the House Banking Committee ($43 million), Section 235 program can continue to assist a substantial number of low-income households.

RESEARCH

Section 303 of S 1197 contains an authorization for research appropriations for FY 1982 of $35 million. MBA has consistently supported the research activities of the Department at a level of funding deemed appropriate by the Department and the Congress.

GOVERNMENT NATIONAL MORTGAGE ASSOCIATION

Section 207 of S 1197 would increase GNMA's Special Assistance purchase authority by $2.3 billion for FY 1982. MBA strongly supports the continuation of the GNMA Tandem program beyond FY 1982 and supports the additional $2.7 billion in purchase authority that would result in a $3.6 billion level of total purchase authority as contained in H Con Res 115, the First Concurrent Budget Resolution for FY 1982. Further, MBA urges Congress to provide that the $3.6 billion limit shall not apply to any authority to enter into commitments which were authorized for use during FY 1981, but were not utilized in that year.

Prevailing financial market conditions make it impossible for conventional lenders to meet the need for affordable financing for multi-family rental projects serving the disadvantaged, namely low-income persons, the elderly, and the handicapped. The GNMA Tandem program helps to meet this need. MBA does not believe that exclusive reliance upon tax-exempt bonds for financing, as provided for in section 11(b) of the 1937 Housing Act, will be sufficient. The need for low-income rental housing is so great and the uncertainties of the market--even the tax-exempt bond market—are so considerable that there will be a need to continue the Tandem program for the indefinite future if Section 8 new construction projects are to be financed.

We are well aware that under current Federal government budgetary procedures, the GNMA Tandem program appears enormously expensive. However, we would like to point out that appropriations for the Tandem program are treated simply as outlays that are never recaptured. In fact, GNMA does recapture the majority of the money spent to purchase multi-family rental project mortgages when it discounts and re-sells those mortgages in the market.

MBA appreciates the opportunity to appear before the Subcommittee, and would be happy to furnish any additional information the Subcommittee may want.

STATEMENT SUMMARIZED

Mr. Beck. Mr. Chairman, and members of the subcommittee, my name is Felix Beck. I am chairman of the board of Margaretten & Co., located in Perth Amboy, N.J., and I also serve as chairman of the legislative committee of the Mortgage Bankers Association of America.

Accompanying me today are Burton Wood, MBA's legislative counsel, and Sharon Canavan, associate legislative counsel.

Mortgage bankers are a principal source of residential mortgage credit, providing between 20 to 25 percent of single-family mortgages in this country in recent years.

As this Nation focuses on its fundamental macroeconomic problems, there is a real danger that we may lose sight of equally significant economic and social problems plaguing America's home-buying public.

HOUSING CRISIS

The convergence of several critical forces—high interest rates, the increased cost of housing, and the greatest demand for shelter in our history—are sowing the seeds of a housing crisis of monumental proportions. In the decade of the 1980's, 43 million people will enter the home-buying market, more than twice as many as at any previous time in our Nation's history. The solutions to this housing crisis cannot wait patiently for broad-gaged tax and spending cuts to reduce inflation and interest rates over a 3- or 4-year planning horizon.

Government must be careful not to worsen this housing crisis with ill-timed steps that could increase the cost and reduce the availability of mortgage credit. In particular, MBA strongly opposes the proposals to phase out the nonsubsidized FHA insured loan and GNMA guaranteed mortgage-backed security programs, either directly by setting a cutoff date or indirectly by setting unrealistically low credit budget ceilings, such as are projected by the administration's budget for fiscal year 1982 and subsequent years. Ceilings will reduce the viability of the FHA and GNMA programs and inhibit the affordable housing finance alternatives of moderate- and middle-income home buyers, especially the first-time home buyers, precisely at a time of unprecedented demand. The timing of such proposals could not be worse, especially in light of serious shortfalls in the availability of conventional mortgage credit in recent years.

MBA strongly opposes any efforts to restrict the VA home loan guaranty program, which is an entitlement program, either directly by making it subject to credit budget limitations or indirectly by restricting its viability through the imposition of a restrictive ceiling on the GNMA MBS program. Since approximately two-thirds of all VA loans are placed in GNMA pools, should the GNMA ceiling be reached, VA loan organizations would be severely restricted for lack of an available secondary market vehicle for the VA loans.

For these reasons, MBA strongly urges that these ceilings be set high enough to allow the FHA and GNMA programs to accommodate home-buying demand. Further, MBA urges that the procedure established to enforce limits be flexible enough to respond quickly should these ceilings be reached. MBA urges the adoption of language to require HUD to report to this subcommittee when program activity levels near the ceilings to allow sufficient time for legislative action in the event that the ceilings prove restrictive.

MBA'S POSITION HIGHLIGHTED

In the remainder of my time I would like to highlight MBA's position on several issues, while referring you to our written statement for the details of our views.

MBA supports the extension and continued funding of the section 235 low-income homeownership assistance program.

Also, MBA believes the GNMA tandem program should be continued beyond fiscal year 1982. We support the proposed $2.7 billion increase in GNMA's purchase authority, which would result in a total purchase authority of $3.6 billion in fiscal year 1982, as contained in the first concurrent resolution for fiscal year 1982. However, MBA strongly opposes the proposed phaseout of this program after a buyout of projects currently in the pipeline. The GNMA tandem program is a vital means for providing affordable financing for low-income, multifamily rental housing. Until a workable substitute is developed, we believe the tandem program should be continued.

MBA appreciates the opportunity to present our views, and we would be pleased to answer any questions or to provide additional information for the record. Thank you.

Mr. BERGER. Thank you very much.

As you know, testimony before this committee by the Secretary of Housing and Urban Development, and others, has indicated that the ceilings were not imposed as a way of restricting the programs but simply as a manner of credit control in the bill. Certainly this committee will be reviewing very carefuly how close we do get to those ceilings. Thank you for your testimony.

Mr. BECK. Thank you.

STATEMENT OF MELVIN A. EGGERS, CHANCELLOR, SYRACUSE UNIVERSITY, ASSOCIATION OF AMERICAN UNIVERSITIES

INTRODUCTION BY SENATOR D'AMATO

Senator D'AMATO [presiding]. Dr. Eggers?

Mr. EGGERS. Good morning.

Senator D'AMATO. It is my pleasure to introduce Dr. Melvin Eggers who is the chancellor of a small upstate university, in the wilderness hinterland of central New York. Since its blooming inception and its creativity, the university has done much to enhance our State in the Nation, not the least of which was to provide educational opportunities to those socially disadvantaged who came from parts as far away as Brooklyn. [Laughter.] I might say that I was the recipient of the educational opportunities of that great university. I have had an opportunity to watch the university with pleasure and delight, particularly under the outstanding leadership of our chancellor, Chancellor Eggers. Chancellor Eggers is here today to testify on a most important and crucial issue, which really I believe will address the essence of whether this great Nation will be able to compete successfully, or the competition will very much depend upon the scientists and productive genius that a free capital system can provide. Interwoven with that is the educational opportunities and the development and the research that comes from our walls of the learned.

The story of Syracuse University is truly a great one and a fine one. Dr. Eggers, I am delighted to be able to be here to introduce you to this committee. I am only sorry that some of our colleagues are also busy and are not here. I am delighted to be here with you and to say hello to a good and dear friend and a great leader of a great institution.

Mr. EGGERS. Thank you, Senator D'Amato. I am very proud to have you as an alumnus of our university. With an introductory statement like that, my statement becomes almost superfluous, but I will not surrender the opportunity to make it. Thank you very much.

PREPARED STATEMENT

We have filed a formal statement from the Association of American Universities.

Senator D'AMATO. Yes; and we will include this statement in the record.

[The statement follows:]

STATEMENT OF DR. MELVIN A. EGGERS, CHANCELLOR, SYRACUSE UNIVERSITY, ON BEHALF OF THE AMERICAN COUNCIL ON EDUCATION, ASSOCIATION OF AMERICAN UNIVERSITIES, ASSOCIATION OF GRADUATE SCHOOLS, COUNCIL OF GRADUATE SCHOOLS IN THE UNITED STATES, AND NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES

My name is Melvin Eggers and I am Chancellor of Syracuse University. I am pleased to have this opportunity to present to you views on the science and engineering research and education needs of the nation as they pertain to the FY 1982 budget requested for the National Science Foundation. My statement is being presented on behalf of several higher education associations: the American Council on Education, the Association of American Universities, the Association of Graduate Schools, the Council of Graduate Schools in the United States and the National Association of State Universities and Land-Grant Colleges. The universities and colleges represented by these associations carry out over 50% of all federally-funded basic research programs. In addition to training virtually all of our nation's scientist and engineers, these institutions educate many of the elementary and secondary level teachers and administrators who play indispensable roles in science education.

The National Science Foundation has played a unique and vital role in leading the nation's investment in basic research and science education. The Foundation's research programs provide more than 34% of federal support for basic research in our universities and colleges. Unlike other federal agencies, such as the Departments of Defense and Energy, the Foundation maintains no laboratories of its own. All NSF research and education programs are carried out by universities, colleges and other nonfederal organizations. NSF has, however, been outstanding in developing experimental means for bettering the prosecution of research at universities. The Materials Research Laboratory concept of block grants has been outstandingly successful. The current AAU/NSF experiment in grants administration, which is now being tested on several campuses, gives universities greater flexibility in fiscal matters, without decreasing accountability, increases the efficiency of research by eliminating unnecessary reporting and gives every indication of enhancing the partnership between research investigators on our faculties and federal agencies. Purposeful expansion of this flexability in NSF's great administration would prove beneficial.

I. A Stable Investment Policy for Research is the First Priority

This hearing occurs at a singularly important time in our history. A new administration is establishing its priorities and policies, and a new Congress is weighing responses to them. It is an important moment for all of us, one which demands that we give very careful consideration to the many ways in which our nation is dependent upon the quality and vitality of our national capacity for science research and education and the extent to which that capacity is dependent upon the nature and level of national investment made through the Federal government.

In recent years, there has been broad bi-partisan agreement on and commitment to the need to sustain the federal responsibility and investment for research and training, particularly in all the sciences and engineering. That commitment is essential if the United States is to remain at the forefront in the discovery and the application of new knowledge, be a world leader in science and technology, retain our position in the world marketplace and provide for our national defense. Were our national resolve in this effort not sustained, or were it to experience severe or sudden dislocations, the price we as a nation will pay in foreseeable and unforeseeable ways will be enormous.

There are several disquieting signs that our commitment in the area of fundamental research is weakening. Data indicates, that since 1967 the percentage of the federal budget expended for research and development has fallen from 11% to 6%; and that the percentage of the gross national product (GNP) devoted to research and development has declined from 2.2% to 1.3%. I am told that, by comparison, the budgetary commitments to research and development in Japan and West Germany show the reverse trend. Perhaps the lesson for us already is clear.

As we begin a new debate on national priorities and problems it is perhaps well for us to recall something of the history of the federal role in basic science and education and the extent to which the country is fundamentally dependent upon them.

In the period roughly since the end of the Second World War a consensus has been forged in this country that research and training for research indeed are indispensible to our health, economic prosperity, cultural vigor and military strength. It has been understood that some of the most extraordinary discoveries are not fully appreciated until long after they are first made. Ultimately, it also is agreed, the entire nation shares in the fruits of research and that the costs to society of modern research cannot be met without a substantial and diversified federal contribution. Clearly, the individual states have neither the monetary capability nor the sense of national responsibility to establish the necessary priorities in areas such as national defense, public health and fundamental basic research that provides for our continued advancement as a society. It has been clear for some years that there is a general consensus on this fundamental principle.

The most visible sign of the general consensus on this fundamental issue has been the growth of a group of research universities whose performance in research and training has been a triumph of American public policy. I believe it is fair to say that this group of nationally distinguished universities remains the unduplicated envy of the world. The results truly have been remarkable. It is difficult to think of an achievement in science and technology during this entire period that does not bare the mark of work done in one or more of these institutions. For example, scientists from the United States received only 20 of 142 Nobel prizes awarded prior to World War II in the sciences: chemistry, physics, physiology, and medicine. Between 1945 and 1978 American scientists received 94 of 184 prizes awarded.

Out of basic, fundamental research have come such important discoveries as antibiotics, computers, bio-technology, nuclear energy and lasers. Studies conducted years ago by geologists interested in cataclysmic environmental changes in the ancient world suddenly have taken on new meaning as companies try to locate additional oil deposits. Current efforts to harness the power of nuclear fusion can be traced back to a fundamental interest in the nature of the stars and the origins of the universe. We now have CAT scanners in hospitals because some people thirty years ago were doing basic research in nuclear physics, solid state physics; and because, even earlier the mathematicians expanded our knowledge of three-dimensional geometry for which computer programs had been written to analyze particle physics phenomena.

In defense our current superiorities in the technologies of missile guidance, advanced aircraft, submarines, and space defense systems rest on a foundation of research built up over the last decade or more. If we are to retain our lead in critical areas and remain competitive in the world market place additional work is needed in fields such as computer sciences, materials and advanced electronics. The stream of knowledge needed to keep pace with world-wide competition in these fields cannot be turned off and on at will. Each discovery builds on earlier discoveries, often in unpredictable ways. Unless new, stronger foundations are laid in the 1980s by people trained to new levels of excellence, there will be no way to meet the needs of the 1990s.

In the area of health, Dr. Lewis Thomas, President of Sloan Kettering Memorial Hospital has noted that it required 50 years of concentrated basic research to pave the way for antibiotics. "Without the long painstaking research on the bacillus," he has written, "we would be thinking that tuberculosis was due to night air and we would still be trying to cure it by sunlight. We need reminding now more than ever that the capacity of medicine to deal with infectious disease was not a lucky fluke; nor was it something that happened simply as a result of the passage of time. It was the direct outcome of hard work done by imaginative and skilled scientists...

"It was basic science on a very high order, storing up a great mass of interest and knowledge for its own sake, creating so to speak, a bank of information ready for drawing out when the time for intelligent use arrived."

The storing up of information and replenishing the bank of information described by Dr. Thomas is the primary mission of the National Science Foundation. It is in fact the only major federal agency of the Federal government which has as its primary mission the support of fundamental, basic science. It is for that reason that the National Science Foundation in its 30-year history has made historic contributions to science and the nation as it pursued its legislative purposes:

> "To promote the progress of science; to advance the national health, prosperity and welfare; to secure the national defense, and for other purposes" (PL 81-507).

The universities of this country are our reservoir of basic research and are our major resource for research training. Our research universities have been built over a long period of steady support and we have extraordinary depth in them in relation to research. We are at present still preeminent in the world in this respect. It requires, of course, 15 to 20 years to build research depth. Yet in vital areas it can be torn down, in a year or two greatly reduced in capacity, and severly damaged. If erratic or insufficient funding patterns result in the dismantling of existing, working research groups, it will take us again 15 to 20 years to regain the position we now have. While we all recognize the economic restraints and problems we face, it is conceivable that we may be embarking upon a penny-wise, pound foolish approach if we seriously disrupt or dismantle our research and training capabilities by imposing deep cuts.

Our universities can remain in the forefront of the advancement of science and technology. They can conduct the fundamental research which adds to the store of knowledge. They can prepare the scientists engineers, and teachers for future generations (for service in industry, government and private laboratories as well as universities and other educational institutions). But they can do so only if they have both substantial and stable assistance in meeting the inexorably rising costs of research and education; i.e., costs for skilled personnel, materials, facilities, and increasingly sophisticated research instrumentation and equipment.

If the National Science Foundation is to continue to lead the nation's search for new knowledge, and if we are to educate the scientists, engineers and teachers in the numbers and specialties the nation needs, we must consider several inescapable facts. The first is that a research and education enterprise requires time to become productive. The very nature of research involves a long gestation period but is commensurately rewarding. There is no more proper or effective expenditure of public funds than to provide a stable investment policy that protects the endeavor from sharp and disruptive changes.

For several years, beginning with President Ford's administration, the Federal government has sustained an effort we fully supported to reverse the decline in federal support for basic science. Now the Administration's effort to address our pressing economic problems includes proposals to impose real and substantial reductions in some NSF research programs, especially in key initiatives designed to meet acute research instrumentation and facility needs and in the social and economic sciences. If they are approved, the reductions in our social and economic sciences will have a damaging and disruptive effect on our nation's research and education activities in those fields disproportionate to the relatively small savings that may be achieved. We urge the Congress to reject such disruptive reductions.

There are three major areas of concern that I would like to share with you which I believe the majority of my research and scientific colleagues in the academic world share. The first of these is the national need for more highly trained people.

II. The Nation Needs More Highly Trained People

The programs in support of research training have enabled us to select from among the most talented of our young people and attract them into science.

The Administration proposes to terminate the entire science education activity of the Foundation. To this we must strenuously object, and we urge the Congress to reject such steps as short-sighted budgetary expediency.

The proposal strikes directly at the heart of the Foundation's charter. Since it was created in 1950, NSF has had the dual mission of supporting excellence in research and in science education. As recently as a year ago, in creating the Department of Education, the Congress reaffirmed the importance of retaining a vigorous comprehensive science education activity as part of the Foundation. The Congress specifically rejected proposals to move science education from NSF to the Department.

If all science education programs are eliminated from the Foundation, the education of many future scientists, engineers and teachers will be seriously harmed. The Science Education Directorate provides the focus for the continuing development of programs, and initiatives designed to address the well-documented shortcomings of our nation's schools, colleges and society at large. The recent report by the NSF and the Department of Education (Science and Engineering Education for The 1980s and Beyond, October 1980) describes many of the serious challenges we face in upgrading the quality of science and engineering work throughout our education system, from the elementary and secondary levels to advanced graduate work. We must now not retreat from the struggle against the growing scientific illiteracy of our people.

The research and training capacities of the major research universities are threatened by a growing shortage of advanced graduate students and young researchers in all fields of engineering (e.g., chemical and petroleum engineering, electrical engineering), in the physical sciences, in Computer Science and related areas. We do, in fact, suffer from our very success in scientific achievements and their contributions to the welfare of society. Industry, in turn, is experiencing severe shortages of trained researchers, and so is turning to the universities for them. As researchers leave academic careers we are in danger of "eating our seed corn" in these disciplines. Rather than terminate the NSF competitive doctoral fellowship program, once the premier national science fellowship and an important symbol of federal leadership and commitment to excellence, we urge the Congress to restore it to the position of prominence and respect it once enjoyed.

The higher education community recognizes that science education is an essential concomitant of the nation's basic research effort. This relationship is expressed in the National Science Foundation's statutory mandate "for the promotion of basic research and education in the sciences," and in the substantial proportion of the NSF budget devoted to science education in the mid-1960's. The community is deeply concerned with the recent decline of science education funding, and with the Administration's proposals to all but eliminate support.

We believe that the trend must be reversed, and that funding of science education should be maintained at a reasonable relationship with other programs in the NSF budget. In considering the Foundation's future mission in science education we join with the American Association of State Colleges and Universities, represented earlier today by Dr. John Wright, and others in offering the following recommendations.

1. Fund the Science and Engineering Education Directorate to $75 million. This will enable NSF to fulfill its contractual obligations and to support at cost-effective levels a limited number of program activities having the very highest priority.

2. Fund the entire FY 1982 Science Education budget in three subactivities, and do not explicitly require the

funding of any existing programs or specify their budget levels. Even at current levels, or higher, SEE has too many separate mandated programs, resulting in administrative inefficiencies and insuring that most programs are badly underfunded and hence only partially effective. At lower levels, flexibility is essential. We suggest the following subactivities and 1982 budget levels:

Research and Analysis	($10 million)
Precollege Programs	($30 million)
Higher Education Program	($35 million)

3. Require the NSF to reorganize SEE to reflect the new budget authorization policy. While the specifics should be left to the agency, the functions should be made clear by the Congress.

Research and Analysis. This division as a unit of SEE would provide support for carefully selected research applied to the most urgent problems in science and engineering education. It would also be responsible for the collection, analysis and dissemination of information about key aspects of the nation's science education enterprise including its status relative to that in other countries.

Precollege Programs. This unit should design and administer a set of activities that are targeted at those, and only those, parts of the precollege science education enterprise in which the federal role can be decisive and for which it is uniquely qualified. Of special concern should be up-grading the quality of junior and senior high school teachers, and student oriented activities--such as "3-2-1 Contract," "Saturday Academies," and summer research internships--to attract talented youngsters into thinking about careers in science and engineering.

Higher Education Programs. This unit would be charged with supporting a carefully focused and coordinated set of college/university level activities to improve the quality of science education available to both general students and science and engineering majors. The activities, the priority and individual magnitudes of which would change over time in relation to shifting needs as identified by the Research and Analysis unit, could include support for graduate fellowships, science student recruitment, faculty development, course development, interinstitutional resource and information sharing, and instructional instrumentation.

The second major problem area that I would like to discuss with you is the severe and critical need for continued support for research and instructional instrumentation and equipment.

III. Instrumentation and Equipment: The Tools of Basic Science Are Wearing Out

The research and training capacities of the major research universities are being steadily and increasingly eroded by the rapidly increasing obsolescence of research facilities and instrumentation.

Almost every major university has made a telling and effective case over the past several years that its research equipment and research facilities are growing increasingly obsolescent and that the problems of maintenance of equipment for research in the university are becoming almost insurmountable. This provides an increased threat to our ability to keep up with the technological advances in scientific fields and thus diminishes our ability to carry out research and to train the next generation of researchers. To delay longer the support of an instrumentation provision program begs our viability in research and research training and contributes to the process of dismantling the research effort in our country.

In June 1980 the Association of American Universities presented a report to the National Science Foundation: "The Scientific Instrumentation Needs of Research Universities." Copies have been provided to the Committee. (The attached March 6 Science article summarizes the report.) The study was carried out under the guidance of an advisory committee comprised of individuals from industry and other private institutions. The team visited with several hundred research scientists and administrators in sixteen universities and in a number of government and commercial laboratories.

When the instrumentation available in university laboratories was compared with that in some of our best commercial laboratories, it was found that the median age of university instruments is twice that of our most advanced commercial laboratories.[1] The serious consequences of this both for the quality of research that can be conducted in the universities now and for the adequacy of the training that can be accomplished on our leading campuses are obvious.

Problems were found across all institutions in five departments surveyed (physics, chemistry, biological sciences, earth sciences and electricial engineering) in the acquisition, use and maintenance of research instrumentation. The results reflected the diversity among the fields surveyed and the institutions.

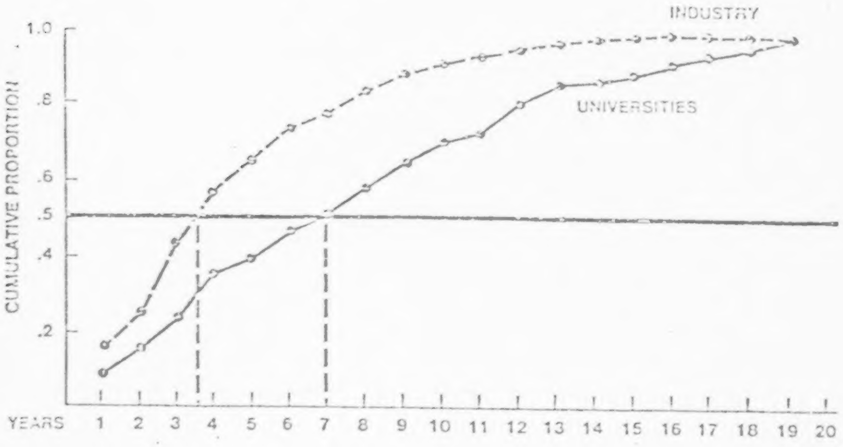


FIGURE 3. *Age of Instrumentation in Universities Twice That In Industry (Proportion of Instrumentation Inventory Purchased Less Than n Years Ago).*

Source: L. Berlowitz, R. Zdanis, J. Crowley, J. Vaughn. The Scientific Instrumentation Needs of Research Universities, The Association of American Universities, June, 1980.

Leading researchers face great difficulty in replacing worn out and obsolete instrumentation and in acquiring new instruments needed to sustain work at the frontiers of their fields. In the leading research universities scientists simply have not been able to keep pace in meeting research instrumentation needs. Those heavily dependent upon federal project funds have seen their grant size fall way behind escalating research cost requirements. As a result many of the nation's pre-eminent researchers now work with inadequate tools and find that the pace of their research is hampered significantly. They often are forced to abandon preferred lines of inquiry. Strained operations and maintenance budgets increasingly compromise research productivity; the quality of education provided to advanced graduate students also suffers.

Faculty seeking to initiate fresh research programs must do so in the face of escalating start-up costs. Routine support equipment needed to test, calibrate and augment primary research instruments often is especially difficult to acquire. In field after field the nation's leading academic research laboratories are falling behind to the point where scientific leadership and the development of new ideas and new lines of inquiry are shifting from universities to industrial laboratories and foreign competitors. Evidence of our declining ability to compete with Western European, in some cases Eastern European, and Japanese laboratories has grown to a convincing level. There now seems little doubt that in key fields the United States is waging a losing battle in an increasingly competitive world.

The effects of these problems in our academic laboratories are being felt by American industry. The development of new products and processes is being compromised by the lack of highly trained people. New scientists and engineers who join industry now often require additional training because they have not had hands-on experience with the state-of-the-art instrumentation and facilities. The pace of industrial innovation and invention thereby is slowed, further hampering our productivity and our ability to meet stiffening foreign competition.

In response to the AAU report and others NSF earlier proposed initiatives to begin reversing the long-term decline in federal investment for research facilities. A $75 million program to begin the renewal of university research laboratories and a

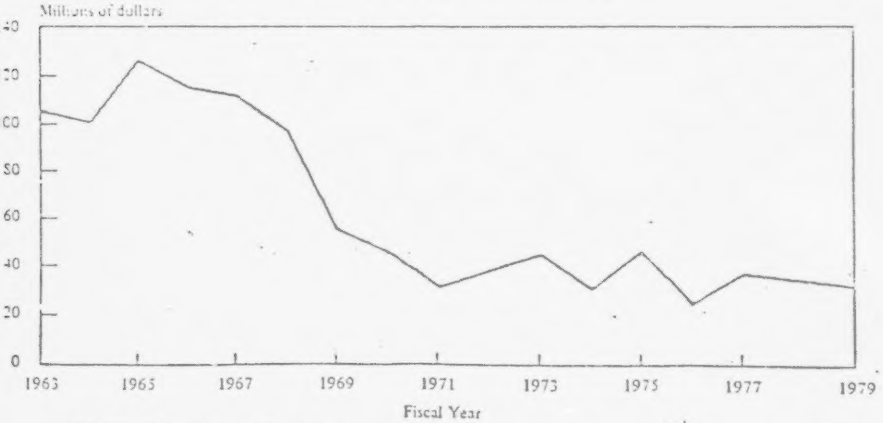
$25 million initiative to improve engineering instructional laboratories were proposed. We regret that these proposals have been deferred and eliminated from the FY 1982 budget. We urge your support for the recommendations of the Senate Committee on Labor and Human Resources and the Commerce Committee that recognize the seriousness of this problem by beginning a reduced effort this year.

IV. RESEARCH FACILITIES

Intertwined with the problems of research instrumentation is the progressive deterioration of many of the nation's leading university laboratories.

For about 15 years the level of federal investment in research facilities in universities and colleges has declined steadily, from about $126 million in 1965 to only $32 million in 1979. Now only the National Science Foundation, the Department of Energy and the National Institutes of Health provide any funds for research laboratories. Most of these are targeted on the development of major national facilities intended to serve a large and diverse population of users. For many years essentially no funding has been provided by federal agencies to upgrade laboratories where federally-supported research and education programs are carried out. State and private investments have continued. In total dollars the level of expenditures by universities is increasing. But these sources are inadequate to fill the vacuum left by the withdrawal of federal investment.

Federal obligations to universities and colleges for R&D plant



SOURCE: National Science Foundation

A survey of the research facilities needs of leading universities now is being done by the Association of American Universities. The survey is gathering information from 15 universities, which in FY 1979 accounted for about 22% of total Federal R&D obligations to universities and colleges. (A list of universities participating in the survey is attached.) Six fields are included:

- Biological Sciences
- Chemical Sciences
- Earth Sciences
- Engineering
- Physics
- Medical Schools

The report will address the following questions:

- In the absence of any significant federal investment, what has been the recent trend in expenditures by universities for the renewal and rehabilitation of their research facilities?
- What level of expenditures do the universities estimate will be needed over the next few years to allow faculty who will be in place to carry out their research?
- What are the consequences to science and engineering, and to industry and government, of the present condition of university laboratories?

The completed survey will be made available to the Committee shortly. As a preview of that report I would summarize some of its key findings.

A. Expenditures Last 3 Years

- In the last three years fifteen universities spent $194.6 million for new construction,[a] facility modernization,[b] major repair and renovation,[c] and special research equipment in six fields surveyed.

- Estimated total expenditures by the top 100 universities and colleges, ranked by FY 1979 Federal R and D obligations received, were $856 million.

- Ten medical schools accounted for almost one-third of the total expenditures; biological sciences 24% and engineering 18%.

- Federal, state and local government regulations added to costs in all areas. Precise measurement and reporting of these costs, however, is impossible because they quickly become part of overall facilities design, planning, budgeting and management. Although imprecise, the data do indicate relative emphasis. More than one-third of the total expenditures in the chemical sciences, for example, are estimated to be the costs of bringing laboratories into compliance with government safety requirements. In addition perhaps 20% of total major repair and renovation costs are required by government building codes and safety regulations.

- The type of facilities work funded varied considerably by field. Major repair and renovation, for example, accounted for 36% of expenditures for physics but only 9% in engineering.

B. Expenditures Projected This Year

- In the current year these 15 universities will spend $206 million to improve their research facilities, more than their combined total expenditures of the previous three years.

(a) "new construction" includes new buildings and new wings added to existing buildings. Major general purpose fixed quipment, i.e., equipment costing $5,000 or more and having a useful life of at least two years is included. Furniture and research instrumentation and equipment are excluded. Items such as cold rooms, ventilation hoods, and benches are included. Libraries are excluded; computer facilities are included. Expenditures for shared facilities are apportioned by discipline. Expenditures for construction planning are included.

(b) "facility modernization" means upgrading necessary to conduct a new generation of science; NOT routine maintenance or operations.

(c) "major repair and renovation" means substantial maintenance and repair (e.g., roofing, wiring); routine or light maintenance (e.g., painting) is excluded. Major general purpose fixed equipment as defined under (a) is included.

(d) "special research equipment" means major research equipment capitalized at $100,000 or more.

1962

Total Expenditures-Last 3 Years for Research Facilities*

	New Construction	Facility Modern-ization	Major Repair and Renovation	Special Research Equipment	Total	% of Total	% Private	% Public	% Government Regulations
Biological Sciences	30,258	9,758	5,388	461	45,865	23.6	79.3	20.7	13.0
Chemical Sciences	4,662	6,283	2,890	6,701	20,536	10.6	58.8	41.2	35.9
Earth Sciences	9,846	2,128	355	2,096	14,425	7.4	20.4	79.6	2.6
Engineering	8,515	7,401	3,623	16,101	35,640	18.3	55.7	44.3	2.8
Physics	2,412	3,961	5,326	4,603	16,302	8.4	73.5	26.5	2.3
Medical School	18,234	38,671	2,299	2,577	61,781	31.8	47.3	52.7	7.6
Total	73,927	68,202	19,881	32,539	194,549	100.0	57.8	42.2	10.2
% of Total	38.0	35.1	10.2	16.7	100.0				
% Private	72.2	41.4	85.7	42.5	57.8				
% Public	27.8	58.6	14.3	57.5	42.2				
% Government Regulations	10.5	10.7	23.3	0.3	10.2				

National Estimate for top 100 Universities and Colleges - $856,016

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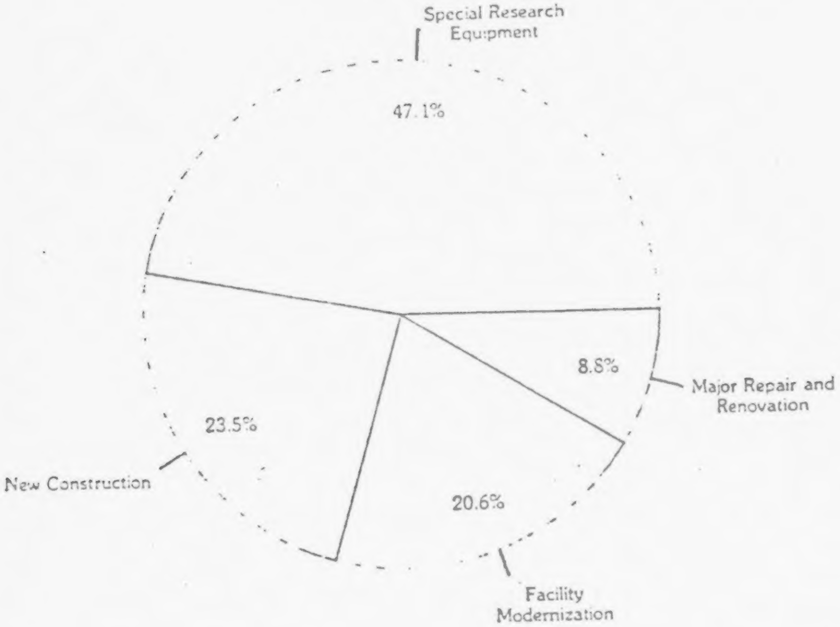
*In thousands

1963

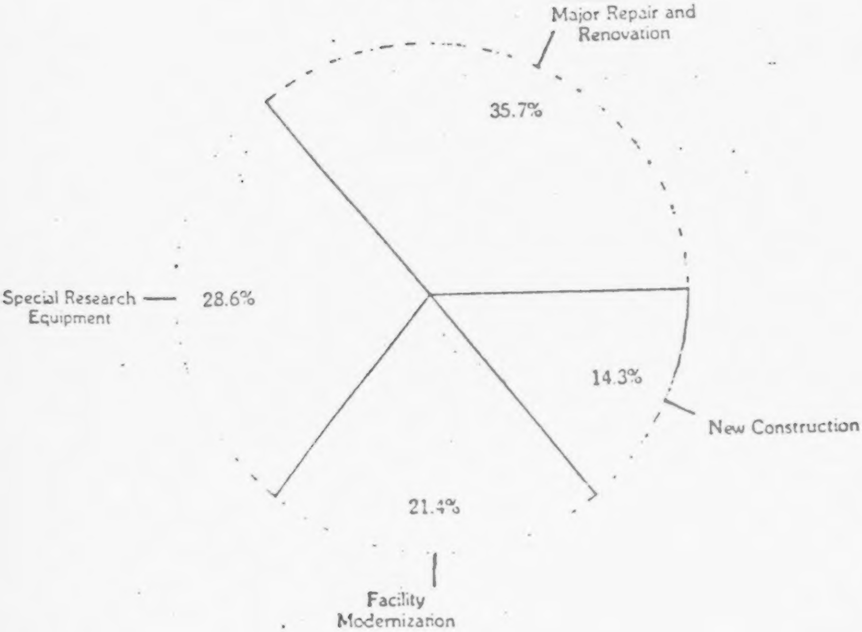
Total Expenditures Last 3 Years

for Research Facilities

Engineering



Physics



- Estimated total expenditures by the top 100 universities and colleges, ranked by FY 1979 R & D obligations received, will exceed $900 million.

- Ten medical schools will account for slightly more than 50% of total expenditures projected for the current year, followed by the biological sciences (16%) and engineering (14%).

- The general impact of government regulations again is evident. Such costs are projected to be more than 10% of total expenditures in biological sciences, earth sciences, and engineering. Almost one-third of total expenditures for major repair and renovation is estimated to be required by government regulations.

- As shown by the following figures the type of work needed varies considerably by field. For example, new construction will account for over 40% of expenditures projected this year in physics, but less than 20% of expenditures for engineering. (Over 50% of total expenditures in the biological and chemical sciences, will be for new construction.)

. Needs Projected Next Three Years

- In the next three years the 15 universities estimate that combined investments of more than $1 billion will be needed to allow their faculty in place to carry out their research. This exceeds 250% of their combined expenditures of the previous four years. Total needs of the top 100 research universities and colleges, in terms of FY 1979 obligations received, are estimated to be in excess of $4.4 billion.

- Approximately one-third of total estimated needs are in the biological sciences and about 20% each in engineering and medical schools. The chemical sciences account for about 13%, physics 10% and the earth sciences 6%.

- About 44% of the projected needs are for new construction; major repair and renovation will account for about a third. Facility modernization (15%) and special research equipment (10%) account for the rest.

- The costs to comply with government regulations will account for a substantial portion, perhaps as much as one-third, of total projected needs in the chemical sciences. More than 25% of total projected needs for facility modernization across all fields is estimated to be due to these mandated costs.

1965

Expenditures Projected This Fiscal Year for Research Facilities*

	New Construction	Facility Modern-ization	Major Repair and Renovation	Special Research Equipment	Total	% Not Yet Funded	% of Total	% Private	% Public	% Government Regulations
Biological Sciences	19,572	11,912	842	875	33,201	6.3	16.2	75.6	24.4	11.8
Chemical Sciences	11,070	2,085	934	4,767	18,856	35.0	9.2	44.5	55.5	6.5
Earth Sciences	3,802	3,803	2,192	1,919	11,716	31.3	5.7	42.9	57.1	13.1
Engineering	5,448	7,792	5,236	10,984	29,460	14.8	14.3	56.7	43.3	10.4
Physics	2,980	861	1,977	1,230	7,048	19.7	3.4	33.9	66.1	3.4
Medical Schools	84,695	17,563	1,330	2,012	105,600	53.2	51.3	67.0	33.0	0.9
Total	127,567	44,016	12,511	21,787	205,881		100.0	62.3	37.7	5.3
% of Total	62.0	21.4	6.1	10.6	100					
% Private	67.5	48.0	77.1	53.3	62.4					
% Public	32.5	52.0	22.9	47.7	37.6					
% Government Regulations	1.3	12.0	31.7	0.4	5.3					

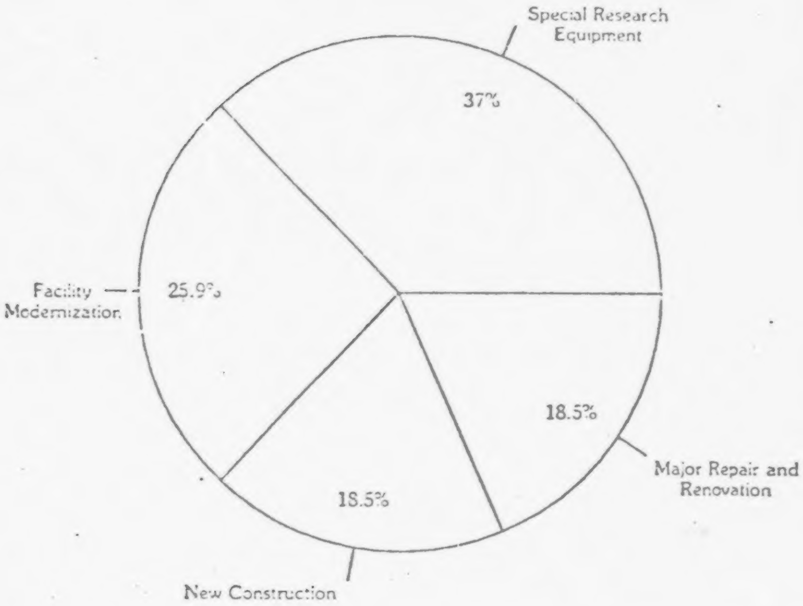
*In thousands

National Estimate for top 100 Universities and Colleges - $905,876

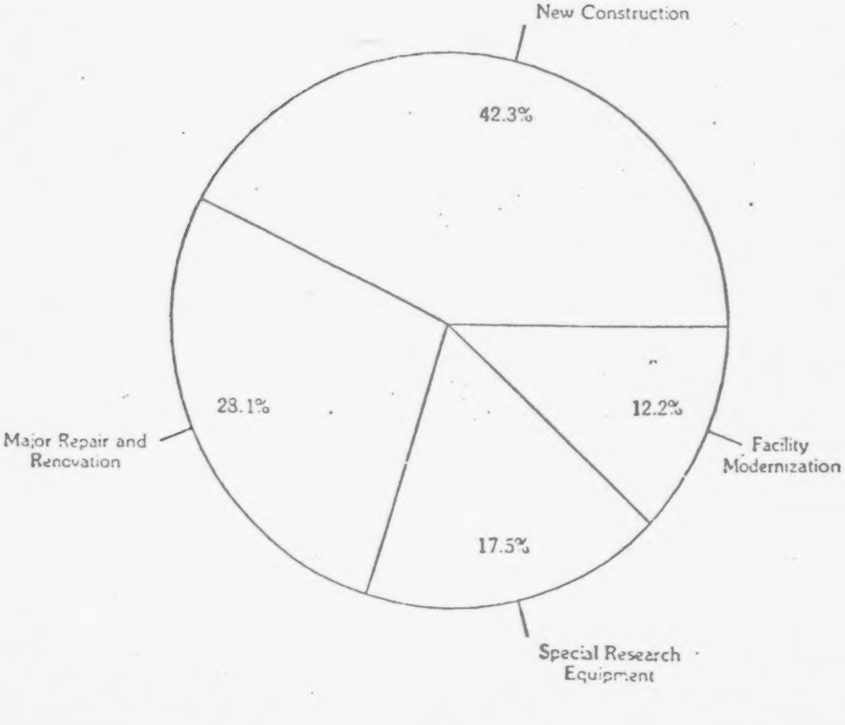
Expenditures Projected This Fiscal Year

for Research Facilities

Engineering



Physics



NEEDS PROJECTED NEXT 3 YEARS FOR RESEARCH FACILITIES**

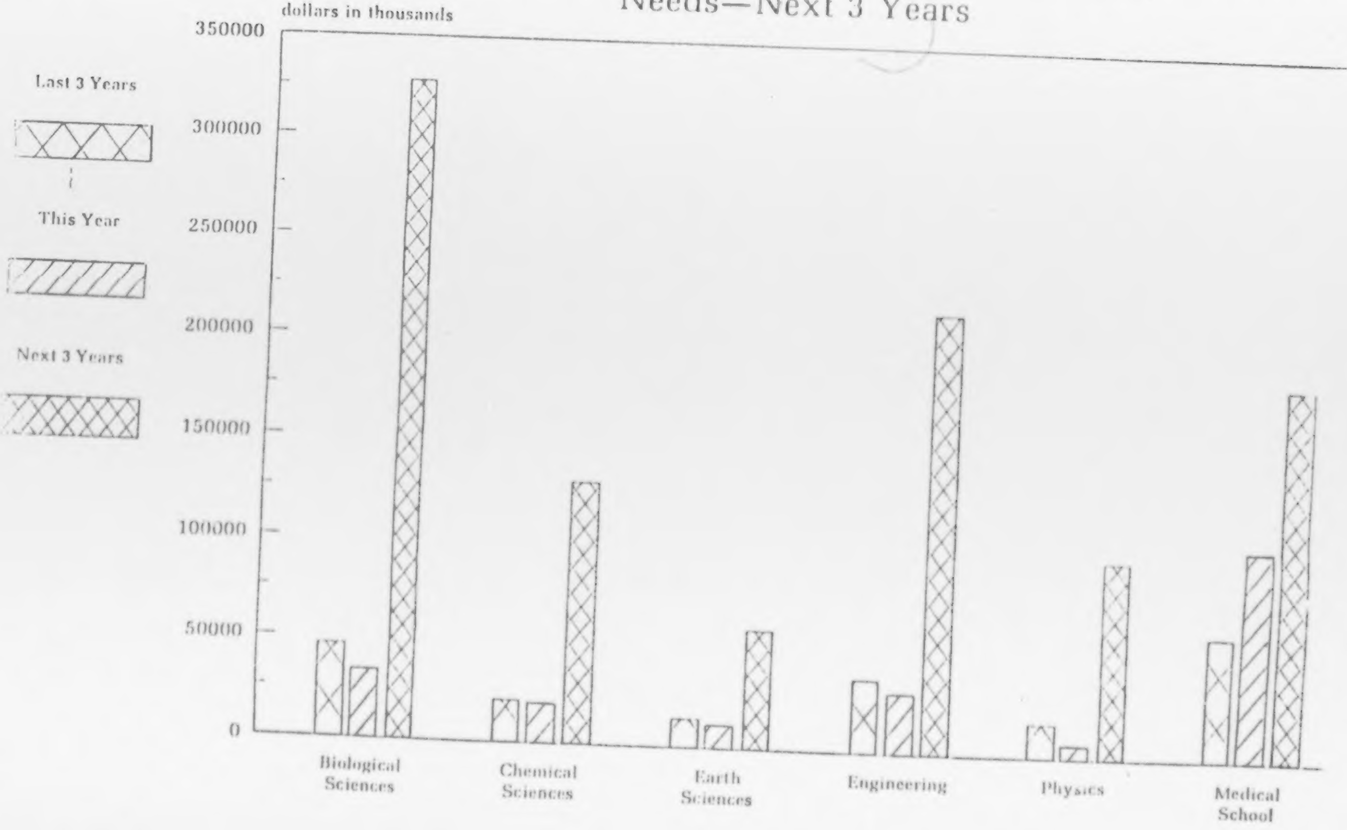
	New Construction	Facility Modernization	Major Repair and Renovation	Special Research Equipment	Total	% Not Yet Funded	% of Total	% Private	% Public	% Government Regulations
Biological Science	45,503	16,293	260,745	4,410	326,951	95.5	32.2	88.4	11.6	6.3
Chemical Sciences	69,950	25,765	19,317	14,688	129,720	98.3	12.8	31.7	68.3	37.3
Earth Sciences	34,733	7,409	6,603	10,604	59,349	88.3	5.9	65.4	34.6	4.1
Engineering	107,012	45,355	30,739	33,222	216,328	87.8	21.3	30.7	69.3	3.2
Physics	54,546	19,016	1,163	22,590	97,315	97.8	9.6	53.6	46.4	1.3
Medical School	133,470	33,447*	4,393	13,167	184,447	67.7	18.2	62.0	38.0	4.8
Total	445,214	147,285	322,960	98,681	1,014,140		100.0	59.3	40.7	8.8
% of Total	43.9	14.5	31.8	9.7	100.0					
% Private	46.6	48.8	87.2	41.5	59.3					
% Public	53.4	51.2	12.8	58.5	40.7					
% Government Regulations	8.0	23.3	3.3	.7	17.8					

National Estimate for top 100 Universities and Colleges - $4,462,216

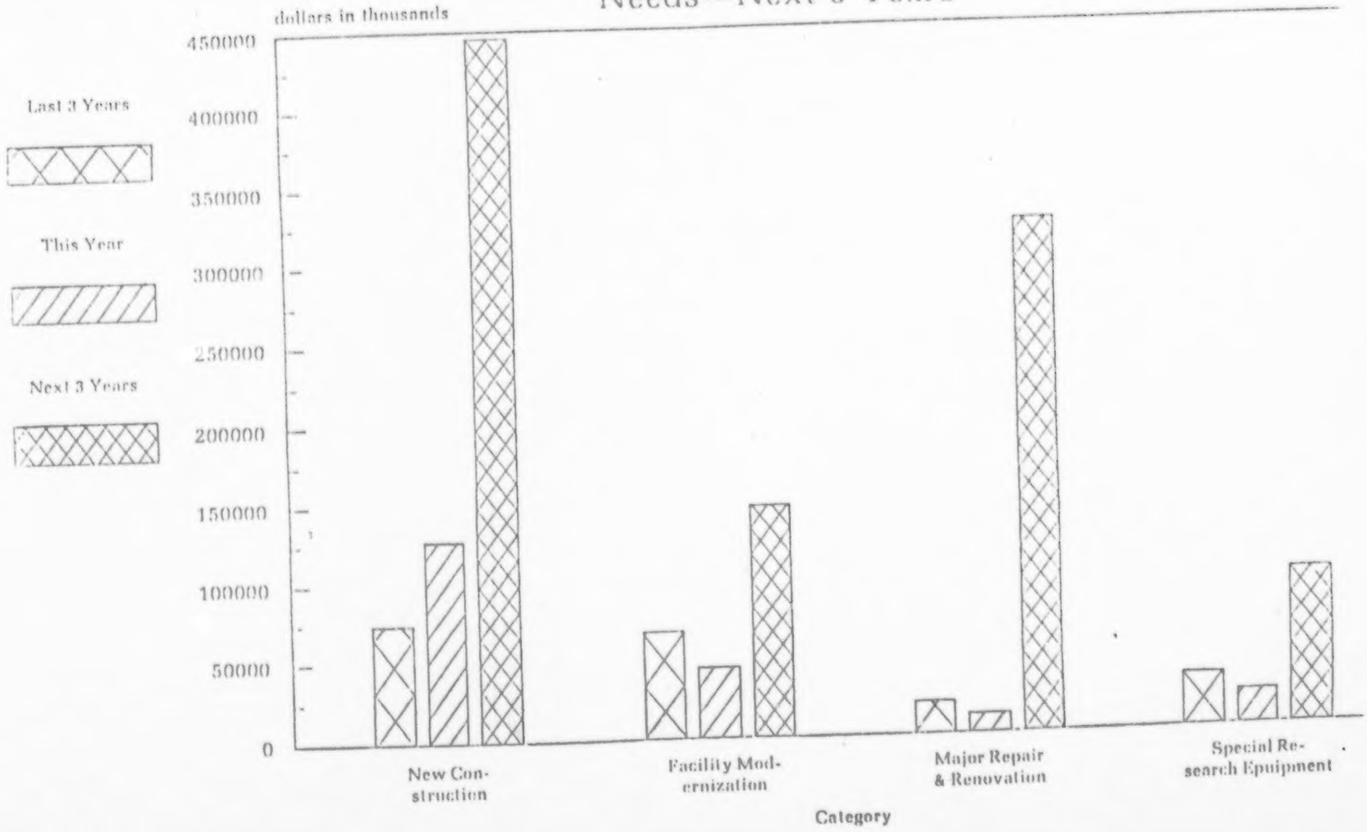
*In thousands

Resear. . Facilities in 15 Universities

Expenditures—Last 3 Years, This Year, Needs—Next 3 Years



1969



Research Facilities in 15 Universities

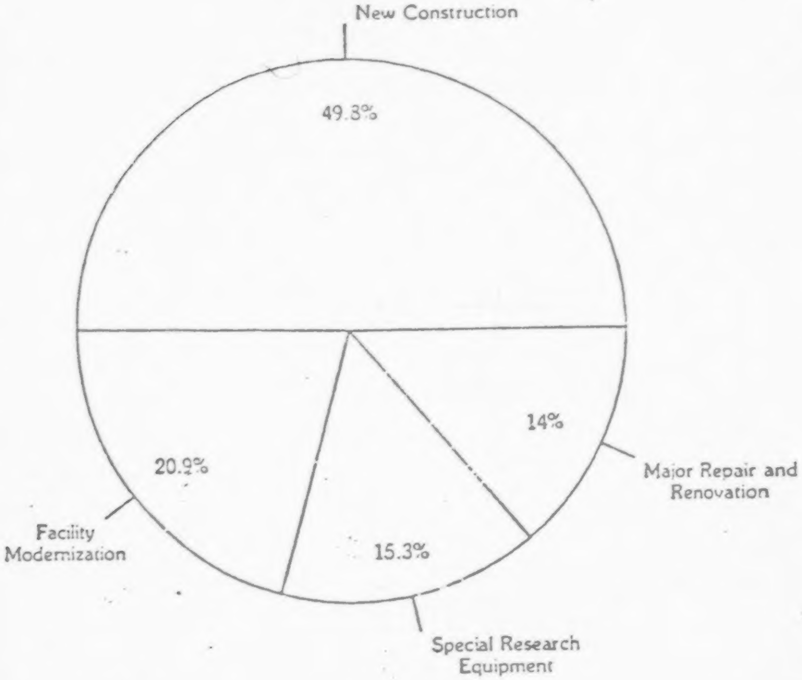
Expenditures—Last 3 Years, This Year, Needs—Next 3 Years

1970

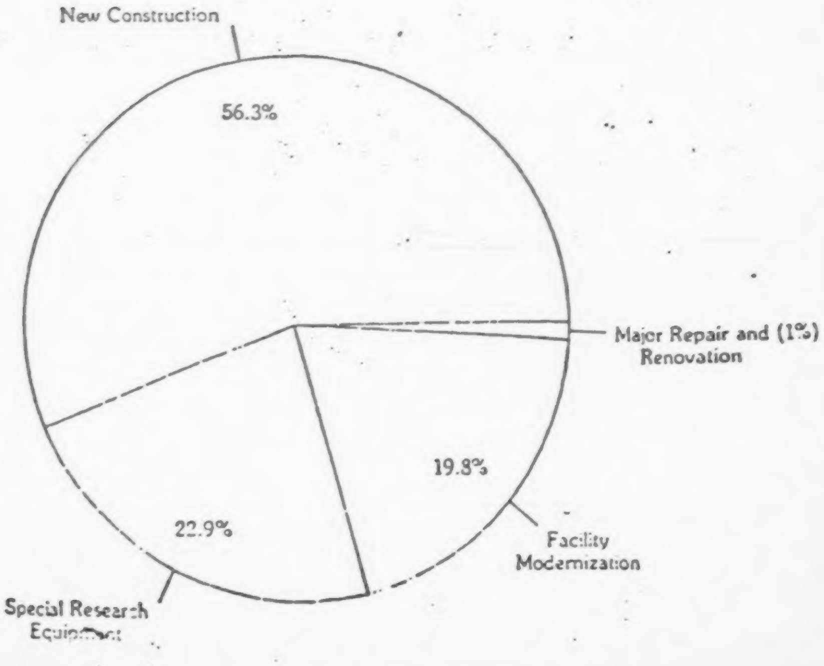
Needs Projected for Next 3 Years

for Research Facilities

Engineering



Physics



D. CONSEQUENCES FOR SCIENCE, INDUSTRY AND GOVERNMENT

The conclusion is inescapable. While the nation's universities remain generally strong, and many are world leaders in science and engineering, there is a serious, growing and diverse backlog of research facilities and equipment needs in many fields essential to the nation's economy, defense, health and welfare. The deterioration of these facilities poses serious negative consequences for science and engineering in this country and for the nation's primary users of research and advanced training: industry, government and the universities themselves.

Consequences For Science

The disrepair and obsolescence of research facilities and equipment threaten the continued development of the scientific and engineering disciplines themselves. Leading researchers in all fields share a growing conviction that American science and advanced education are falling behind in terms of quality, productivity and reputation. Faculty in many leading departments report they are unable to work at the leading edge of their fields. Promising lines of investigation are being foreclosed, efficiency of research output is sacrificed, competitiveness is declining and the quality of training provided to advanced graduate students and undergraduates is compromised as programs shift from costly experimental research and training to theoretical approaches.

As a result leading departments increasingly are frustrated in their efforts to attract and hold quality researchers and advanced graduate students. Many departments report almost insurmountable problems in their recruiting efforts because they are unable to provide candidates with the research environments necessary to conduct competitive research.

A number of factors contribute to this general erosion. Among these are the lack of up-to-date analytical instrumentation and computer support. Buildings constructed for an earlier age are difficult and costly to repair or modernize. Often they are wholly inappropriate settings for modern instruments that require specialized environments in order to perform well. The lack of technical staff and support facilities, such as animal care space and greenhouses, are pressing problems as well. Schools of engineering report a serious shortage of research and instructional facilities in important new areas such as computer-aided design and computer-aided manufacturing (CAD/CAM), fields directly related to increased productivity and industrial innovation.

In summary, most researchers who participated in the survey believe that the United States is now becoming a second-class technological power in an increasingly competitve world.

Consequences For Industry

University research laboratories produce the new knowledge which industry translates into new products, processes and increased productivity. Industry, and so our economy, is dependent upon them. University laboratories also supply industry with a continuing flow of highly educated graduates. The erosion of university research facilities weakens the knowledge base which supports future industrial growth and reduces the quantity of advanced training.

Consequences For Government

The consequences for government, like those for industry derive from the prospect of a weakened knowledge base and a diminished capacity for scientific and technological leadership. In key fields, the nation faces shortages of highly trained and educated people in government to address the problems of the 1980's and 1990's, including the nation's defense. Only if they have the tools will the research universities be able to play their essential role in educating the scientists and engineers who will determine whether we remain a world leader in science and technology.

E. Recommendations

A comprehensive and flexible national investment strategy, adaptable to the diverse needs of science and engineering departments and their universities, should be established to renew the nation's research laboratories. As a start, we offer the following recommendations:

1. At Least Partially Restore to the National Science Foundation the Initiatives Proposed for Research Facilities and Instrumentation Needs. Earlier

proposals by the National Science Foundation to begin the rehabilitation of research laboratories ($75 million) and to upgrade the instructional equipment of schools of engineering ($25 million) were eliminated and deferred. As a first step toward meeting these needs we urge the Committee's support for the partial restoration of those programs recommended by the Senate Committee on Labor and Human Resources and the Commerce Committee.

2. Establish in the Main Mission Agencies (Department of Defense, Department of Energy, the National Aeronautics and Space Administration, and the National Institutes of Health) Similar Facilities Rehabilitation Programs Targeted on the Fields of Science and Engineering of Primary Significance to the Missions of Those Agencies.

   If the National Science Foundation and the major mission agencies all play similar and significant roles in this effort, the Federal government will have a comprehensive and balanced set of facilities and instrumentation initiatives. Together they would address the broad range of varied and specialized needs of the sciences and engineering while also ensuring that those fields of particular importance to the missions of each agency recieve the special attention they require. We urge the Committee to support development of a comprehensive and coordinated research facilities investment strategy.

3. Provide Incentives to Industries and to the States to Encourage Them to Join with the Federal Government in Renewing the Nation's Research Laboratories.

   Industries and the states benefit directly from research and training provided by university research laboratories and should be encouraged to participate in the proposed investment strategy. We recommend that the Congress provide incentives to industry and to the states to attract their participation as active partners with the federal government and the universities. Incentives for donating state-of-the-art research and instructional equipment, for example, should be provided to industries. States should be encouraged, perhaps through matching programs, to assist in the renewal of research and instructional laboratories that contribute to the state highly educated scientists and engineers.

V. The Behavioral and Social Sciences are Important to the Nation

A third major concern that I want to address only briefly is with respect to the cuts that are being proposed in the support for the behavioral and social sciences. The proposed cuts are deep and severely damaging. Yet, there is widespread agreement that many of our major problems in this country stem from behavioral patterns and from behavioral abberations. Behavioral science is the youngest of our sciences; we have a longer way to go to solve some of the problems that have a their root cause behavior. A major program of truly basic research, behavioral sciences-- i.e., without any clear or direct immediate application-- if we are to make use of very fruitful models that have worked in the other sciences is probably the best investment we can make at the present time for some of the long-term issues our country faces. To severely reduce the budget of the behavioral and social sciences now would truly truncate our future ability to prevent behavioral problems, to prevent costly custodial and rehabilitation efforts, to understand how to properly motivate our people to be productive, contributing citizens, and to provide a better life for all of us.

CONCLUSION

Mr. Chairman, I appreciate the opportunity to discuss these concerns and proposals with the Committee. I would be pleased to respond to any questions.

Universities Participating in 1981 AAU Survey of Research Facilities Needs

Brown University

University of California
- Los Angeles

Cornell University

University of Florida

Georgia Institute of Technology

University of Illinois

University of Maryland

Massachusetts Institute of Technology

Northwestern University

Pennsylvania State University

Princeton University

Stanford University

University of Utah

Washington University

University of Wisconsin

STATEMENT SUMMARIZED

Mr. EGGERS. I shall make a brief oral statement to summarize what we have said in our prepared statement.

I am Mel Eggers, chancellor and president of Syracuse University. I am here today on behalf of the Association of American Universities and a group of other associations which represent the graduate research universities, both public and private. I am pleased to have this opportunity to speak about the appropriations to the National Science Foundation for fiscal year 1982, for they will have a significant impact upon the opportunities for research and education in sciences and engineering.

As you set out to appropriate funds that would shape science policy, it is instructive to recall how the National Science Foundation and the major research universities fit into our national purpose. It is a story that is uniquely American.

The National Science Foundation, an independent agency, serves as the only agent of the Federal Government whose major purpose is the support of education and basic research in the sciences. For the Foundation, the nurturing of the non-Federal scientific educational enterprise is its primary mission. As for the research universities, they are a collection of autonomous institutions, both public and private, that have served as the instruments for achieving our national purpose of scientific leadership.

In the university setting, advanced training and the conduct of fundamental research take place simultaneously in a mutually supportive environment: The apprentice/scholar relationship between faculty and student achieving the training of intellectual leaders while furnishing the scientific enterprise with fresh ideas. Enhancing that effort is the increasingly robust interdisciplinary environment of our universities.

Together, the NSF and the research universities represent a triumph of American public policy. They provide an efficient, highly decentralized, competitive system for the support of the most meritorious research and scholarly activities.

The role of NSF has been significant in placing the scientific profile of the United States at the forefront of the world. But the preeminence of our universities in the advancement of science and technology can be maintained only if the level of support remains high and stable so that scientific research can keep apace with the twin problems of rapidly advancing technology and inflation.

ADMINISTRATION CUTBACKS QUESTIONED

We commend the budget proposals to support the basic research directorates as the top priority of the research community. We are distressed, however, to see that the administration proposes to make a few highly selective, but severe, cutbacks in existing programs and key initiatives in the National Science Foundation. If enacted, these would effect disruptions far out of proportion to the small savings they would achieve. We urge this committee to reject them.

Three additional concerns are shared widely throughout the academic community. First, the administration proposes to terminate the entire science education activity of the Foundation. Such a proposal challenges the very heart of the Foundation's legislative charter. It would also diminish the stature of this Nation in the scientific world.

To maintain our science and technology capacity, our universities must sustain a corps of the most intellectually powerful and well-trained minds our society can produce. Despite past efforts, there remains today an urgent requirement to reinforce scientific education in our secondary and postsecondary schools in order to maintain a steady flow of the most talented young people into the science discipline.

Higher education is experiencing shortages in qualified faculty in some areas of engineering and computer science because industry has lured them away with challenging and well-paying positions. We urge the Congress to sustain the science education directorate of the NSF and have joined with other higher educational associations in offering a proposal which is detailed in our written testimony. This proposal would assure an essential level of support for science education and a reasonable relationship with other programs in the National Science Foundation. It assigns the Foundation the responsibility to reorganize and streamline in order to address the most pressing problems.

EQUIPMENT AND INSTRUMENTATION SUPPORT

The second major problem here is the level of support for equipment and instrumentation. The facts are straightforward. Research equipment at our universities is rapidly becoming obsolete. Yet the cutting edge of science is defined by its instrumentation.

Advances in instrumentation are rapidly incorporated into our industrial technology and, thus, our economic growth. The obsolescence of research equipment in our universities thus threatens the progress of science. We can no longer avoid a program to restore the research capacity of our universities with an ongoing procedure for replacing and revitalizing our laboratories, equipment, and instrumentation.

Evidence of our declining ability to compete with Western European and Japanese laboratories has grown to a convincing level. The NSF program for upgrading research facilities by providing support for state-of-the-art instrumentation is long overdue. It is distressing to learn that this new initiative has been eliminated by the administration. We urge that you begin to reestablish our capacity to do state-of-the-art research in all sciences.

This brings me to the third and final concern: fair and equitable treatment of all sciences. Through vastly differential allocations, the proposed budget of the administration attempts to dictate the legitimacy of various fields of scholarly endeavor within the National Science Foundation and within our universities. The magnitude of the effort to slash the behavioral and social sciences represents ill-considered intrusion into the scholarly enterprise.

It is ironic that this attempt comes at a time when social and behavioral sciences are increasingly concerned with socially valuable applications and practical knowledge. Advanced nations are dependent upon systematic efforts to collect, report, and monitor information which describes the ever-changing environment. With support from the National Science Foundation in the development and application of such concepts as survey research, econometric models, demographic projections, these sciences have added immeasurably to our ability to deal with modern life. We sincerely hope that the Congress will restore this knowledge.

I thank you for the opportunity to share the concerns of the association for strong scientific capacity in order to insure the strength of the economy and the security of our Nation. Thank you very much.

Senator D'AMATO. Thank you, Mr. Chancellor. If I might first of all commend you for your testimony and indicate to you that on two occasions each of the authorizing committees have rejected the tentative suggestions put forth—and I say the tentative suggestions—put forth by the administration in terms of doing away with the science education. I believe that the authorizing committees are in accord. In addition, you will also see that what I consider to be somewhat of an intrusion into NSF by attempting to dictate, as you have indicated, the qualitative kind of analysis and work and indicating what they believe should and shouldn't be undertaken as a legitimate academic pursuit, that that is something the Congress and this committee will reject. That is my impression. But to date I think it is important that the fact of the matter is that science education will not be terminated, and that appears pretty well a fact.

Yesterday we were able—I don't know whether you received this information—to restore $20 million in R. & D., $6 million in science education, and $1.5 million for Antarctic R. & D. So there was a restoration to NSF of some $27.5 million for fiscal 1981.

Now there are still those who I am sure are not pleased and feel this didn't go far enough. But I think it is significant that there are those of us who support the administration but yet recognize in this particular area the cuts as proposed went just too far. So I think you will find that there is a very sympathetic ear in both the Senate and in the House, in regard to those matters which you and so many of your colleagues have testified to here today.

Mr. EGGERS. Thank you very much. That is encouraging. We are grateful.

Senator D'AMATO. Thank you.

HOUSING AND URBAN DEVELOPMENT

STATEMENT OF TERRY ALLEN PERL, EXECUTIVE DIRECTOR, THE CHIMES, INC., BALTIMORE, MD., CONSORTIUM CONCERNED WITH THE DEVELOPMENTALLY DISABLED

ACCOMPANIED BY N. MYRL WEINBERG, ASSISTANT DIRECTOR, GOVERNMENTAL AFFAIRS OFFICE, ASSOCIATION FOR RETARDED CITIZENS

PREPARED STATEMENT

Mr. BERGER. Our next witness is Mr. Perl. Would you introduce your colleague, please, for the record?

Mr. PERL. Yes. My name is Terry Perl. I am the immediate past president of the National Association of Private Residential Facilities for the Mentally Handicapped. I am accompanied by N. Myrl Weinberg. She has provided you with a copy of our full testimony, which we would ask be included in the record in its entirety.

Mr. BERGER. Your entire statement will be included in the record.

[The statement follows:]

STATEMENT OF TERRY ALLEN PERL, EXECUTIVE DIRECTOR, THE CHIMES, INC., CONSORTIUM CONCERNED WITH THE DEVELOPMENTALLY DISABLED

WITNESSES

Representing the Consortium Concerned with the Developmentally Disabled (CCDD) Task Force on Housing is Terry Allen Perl, Executive Director, The Chimes, Inc., Baltimore, Maryland. Mr. Perl, the immediate past president of the National Association of Private Residential Facilities for the Mentally Retarded, Inc., is accompanied by N. Myrl Weinberg, Assistant Director, Governmental Affairs Office, Association for Retarded Citizens.

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INTRODUCTION

- A Focus on Cost Comparison

Thomas Sullivan, Senate Budget Committee staff member, in a soon to be published manuscript, has observed that "successful advocacy for domestic programs in the future will be based not on the humanity of our position but on their comparative cost..." A recent Health Care Financing Administration (HCFA) report on long-term care has documented circumstances when cost-related issues or cost-related policies determine the nature of residential programs for the developmentally disabled. Examples of this are staff patterns, number of residents in a facility, administrative structure, and opportunities or lack thereof for capital improvements. The report's author, Heather Menninger, concludes that "given the influence of fiscal matters in shaping program parameters, it is incumbent upon policymakers to identify the various incentives and disincentives of their reimbursement structures so that implementation of programs may proceed in a rational manner with attention to client-care concerns..."

For purposes of this statement, "residential programs" are used to describe a full array of living arrangements for the developmentally disabled. The term "public residential facility" means a state hospital, a publicly operated institution for the mentally retarded and developmentally disabled. It must also be stated that cost studies generally suffer from non-identical client populations being compared.

The Consoritum Concerned with the Developmentally Disabled (CCDD) Task Force on Housing wishes to share some perspectives with the Senate Subcommittee on HUD Appropriations on the important roles HUD programs perform in financing this nation's community residential services for the developmentally disabled. It is important to stress that HUD programs are a cost beneficial approach to housing for this population. HUD program costs should be compared with those more costly federal support programs such as Medicaid.

- Policy Assumptions

This statement is based on a number of policy assumptions:

(1) Housing assistance for the developmentally disabled person is a legitimate responsibility of both the federal government and the Department of Housing and Urban Development (HUD).

(2) Without guaranteed federal subsidy programs, the possibility of institutionalization is greatly enhanced.

(3) HUD should promote and reinforce the role of the nonprofit sector as a cost beneficial approach to providing appropriate community housing.

- Recommendations with HUD Programs

(1) We applaud both the Administration and Congress for retaining a strong and viable HUD Section 202 program.

(2) We hope to demonstrate that the reduction in the number of Section 8 subsidized units will increase pressure for institutionalizing disabled persons.

(3) We wish to bring to the attention of Congress HUD's failure to implement a cost effective alternative to housing construction which Congress enacted last year. P.L. 96-399 allowed sponsors of housing for the nonelderly handicapped the option of purchasing existing housing under the Section 202 program. It was believed that such purchases can significantly lower the costs of the Section 202 program. Unfortunately, to our dismay, HUD has refused to implement this program in calendar year 1981.

(4) We maintain that the decision of both the past and present Administrations, as well as this subcommittee, to terminate the Congregate Housing Services program is both short sighted and "penny wise, pound foolish."

HOUSING DEMAND FACTORS

The demand for housing for persons with disabilities can probably best be understood by documenting the following items: (1) rate of deinstitutionalization, (2) growth in community residential programs, (3) number of Section 202 applications declined because of inadequate funding, (4) number of disabled persons currently receiving Section 8 subsidies, (5) number of disabled persons on waiting lists for Section 8 assistance and (6) number of existing barrier free housing units compared to the need for such units. Unfortunately, this testimony answers few of these questions for national data on housing for the handicapped is abysmally inadequate, particularly those items described above as related to HUD.

(1) Rate of Deinstitutionalization

Dr. Richard C. Scheerenberger, president, National Association of Superintendents of Public Residential Facilities, has estimated the rate of deinstitutionalization for the mentally retarded and developmentally disabled between 1972-1978 at 9.4%. This rate, which involves roughly 11,000 people annually, held constant at about 9% for each of the six years involved. He estimates that 50% of these persons have been placed in skilled nursing facilities or smaller institutions, 30% in group homes or intermediate care facilities, and 20% in foster homes, natural homes, or apartment programs.

(2) Growth in Community Residential Programs

A December, 1979 University of Minnesota study documented 4,427 community residential facilities for the developmentally disabled in 1977. These facilities, with a licensed bed capacity of 83,668 were serving 76,250 persons of whom 62,397 were mentally retarded. While the average daily population of public residential facilities for the mentally retarded has gradually declined from a peak of 193,200 in 1967 to 139,410 in 1978-1979, community living arrangements have significantly increased since 1970.

(3) HUD Section 202 Applications and Awards

Comparison Criteria	1979	1980
1) Applications for nonelderly handicapped sponsors	201	200
2) Number of approved applications	116	103
3) Requested number of units for the nonelderly handicapped	4,423	7,407
4) Number of approved units	2,217	1,900
5) Approved units of nonelderly handicapped housing as a percent of total Section 202 approved units	11%	10.5%

(4) Disabled Recipients of Section 8 Subsidies

HUD has consistently refused all requests from the disability field to build this item into the Housing Assistance Plan (HAP). Consequently, we can not tell the Congress about the utilization of this program by disabled persons.

(5) Number of Section 8 Waiting List Individuals

HUD has also consistently refused to collect this data.

(6) Barrier Free Housing Units

As with the two items just discussed, the disability field has been unable to convince any agency of the federal government to even consider addressing this area of concern.

COST COMPARISONS

Late last year, Colleen Wieck and Robert Bruininks at the University of Minnesota published the first national analysis of differential costs by type of residential program for the developmentally disabled. They analyzed the costs of 75 public residential facilities and 161 community residential facilities. These programs had a total revenue of $3.11 billion with government sources accounting for 98%. The public facilities budget was $2.735 billion, the community facilities budget was $518 million. Of the public facility support, $1.9 billion was state support and $642.2 million was federal; however, the authors emphasized that "federal and family support may be underestimated due to the inability of respondents to separate and identify those sources from state appropriations." Of the community facility support, $125 million was federal, $120 million was state, and $26 million was county. The study documented domains essential to determining the cost of residential services, but demonstrated the problems of comparing costs on a national basis because of so many variables in data collection. As a result, this statement focuses on samples from a few state cost studies.

The National Association of Private Residential Facilities for the Mentally Retarded obtained cost information from 67 member facilities in 30 states. These agencies provide privately sponsored residential services in a variety of community living alternatives. The services provided range from those which offer room, board, supervision and training in independent living for people who are largely self-dependent, to full programming for profoundly mentally retarded and multiply handicapped children and adults.

Services at these agencies are funded by a variety of resources including SSI, Medicaid and Section 8 rent subsidies, as well as through family and public contributions. The monthly cost of services at the 67 facilities which responded to the survey ranges from $227 per month for an agency which provides few services, to $2400 per month for an ICF/MR which provides a full range of residential and day services for multiply disabled individuals. The average cost of services provided by these 67 agencies is $1187 per month. The average cost of services in state institutions in the same 30 states is reportedly about $2884 per month. All but 18 of the 67 agencies serve people who are severely retarded. Thirty-three serve people who are profoundly retarded and multiply handicapped.

California

UCPA of Los Angeles/Spastic Childrens Foundation operates a continuum of living arrangements from supervised and assisted independent single apartments to intermediate care facilities. The type of living arrangement and costs follow:

Type of Living Arrangement	Costs Per Client Per Month
1) Two ICF/MR-DD (one serving 146 persons, the other serving 54 persons)	$1,900 per month (all residents have ongoing medical needs)
2) Licensed group homes (facilities for 6 persons or under; persons with judgment problems)	$1,000 per month (includes $250 for medical and $200 for day services)
3) Unlicensed congregate living (4-to-8 persons sharing a 4 bedroom, 3 bath house). These residents pool their Section 8 rent subsidies and are direct recipients of Title XX funds. They purchase their attendant care, on a one-to-one homemaker basis for up to 4 hours per day, from UCPA.	$800 - $1,000 per month (amount differs depending on the neighborhood)
4) Supervised clusters of 3-to-4 apartments (which operate as the congregate houses)	$800 - $1,000 per month (almost always more than the congregate houses).

These three levels of congregate living support 140 developmentally disabled persons. With the assistance of four approved HUD Section 202 loans, as well as the resources of a newly incorporated limited partnership Housing Corporation, UCPA hopes to be able to serve the 200 persons now on its waiting list.

These living arrangement costs now compare to a California state hospital for the mentally retarded and developmentally disabled rate of $2,819 per month. California estimates a fy 1981-1982 monthly hospital rate of $3,256.

Georgia

A recent study compared 33 mentally retarded persons in residential, case management, and day training programs administered by the Athens Community Mental Retardation Service Delivery System to 449 persons residing in the Georgia Retardation Center, a state institution in Atlanta. The cost comparisons follow:

Type of Program	Total Program Costs	Cost to the Federal Government
	(Costs Per Client Per Year)	
Community Residential Programs - residential costs only	$6,970	$2,117
Community Residential Programs - residential, case management, and day training	$10,444	$3,590
Total Georgia Retardation Center (but does not include building costs, depreciation, and opportunity costs)	$32,547	$13,029

The study further cited expenditures statewide for three classifications of living arrangements.

1983

Type of Program	Costs Per Client Per Year
All state operated institutions for the mentally retarded	$22,000
All group homes	$ 9,538
All apartment clusters	$ 4,840

Kansas

The average per diem cost for residents of public institutions for the mentally retarded and developmentally disabled in Kansas is $80.00. UCP of Kansas operates a HUD Section 202 project, the Timbers, in Wichita. The Kansas UCP is also one of eight nationally funded rehabilitation engineering centers in the nation.

The average per diem supportive service rate for the current 90 residents
at the Timbers is $35.60 with an extra $10.00 daily rent supplement. Sixty-five
of the 90 residents are employed or participate in a vocational education program
associated with the Centers Industry program. Attendant care ($15.00 per day,
included in the above $35.60 figure) is financed by Medicaid for the unemployed
residents and from Centers Industry profits for those employed. Last year,
those Timbers' residents who were employed paid $179,000 in federal and state
income tax. Prior to coming to Centers Industry, most of these persons had
never been gainfully employed and most had resided in institutional settings.

Maryland

The four public institutions serving mentally retarded children and adults cited below range in size from 400 to 900 persons. The cost of day programming is not included.

- Per Client Costs By Institution

	Daily	Monthly	Yearly
Rosewood	$75.09	$2,283.99	$27,407.85
Henryton	55.18	1,678.39	20,140.70
Great Oaks	64.52	1,962.48	23,549.80
Holly Center	92.22	2,805.03	33,660.30

The Chimes, Inc. of Baltimore, Maryland provides a variety of residential
options for approximately 100 people with mental retardation. Living arrange-
ments range in size from 2 to 36 persons. The cost of these programs, again
excluding day services, are cited below:

- Per Client Costs By Community Living Arrangement

	Daily	Monthly	Yearly
8 resident group home	$26.94	$819.43	$9,833.10
12 resident group home	24.23	737.00	8,844.00
Apartments	15.32	466.07	5,592.90
Small residence	27.39	833.20	9,998.45

Minnesota

As a result of a decade of progressive policies and a September 15, 1980 Consent Decree in Welsch vs Nest, Minnesota is committed to a systematic reduction of the number of mentally retarded persons residing in state institutions. By June 30, 1987 the state hopes there are not more than 1,850 persons in institutions. Of the state's 4,100 community residential facility residents, 3,000 reside in Medicaid ICF/MRs.

The chargeable per diem at state hospitals has increased from $4.68 in fy 1965 to $52.20 in fy 1977. In the last 3 years (1978-1980), per diems have been increasing at approximately 12% per year. In August, 1980, the per diem for Minnesota's 8 institutions serving 2,650 people was $74.41. In 1962 there were 5,532 state hospital residents. This $74.41 per diem greatly exceeds the per diems of Minnesota's various community settings as indicated below:

• All community residential programs with roughly equivalent populations to those in state hospitals.	$38.42
• The same community residential programs as above including day services and transportation.	$56.33
• Apartment training with 24 hour supervision (20 persons each, 8 facilities).	$24.26
• Semi-independent living services, less than 24 hour supervision (18 people each, 10 facilities).	$16.81
• ICF/MRs	$39.00
• Skilled nursing facilities serving the mentally retarded	$38.37

Of 206 community residential facilities, the lowest per diem was $19.79 while the highest was $68.03. Total residential expenditures have increased from $29 million in fy 1965 to over $77 million in fy 1977. Net state cost has increased from $25 million to $40 million; the major federal reimbursement program is Medicaid.

COSTS OF RESIDENTIAL SERVICES FOR PERSONS WITH AUTISM

The majority of autistic adults served nationwide are institutionalized. According to a survey of institutions in the northeastern United States in 1979, the cost of institutionalization ranges between $30,000 - $90,000 per individual per year, (Blatt 1979). Presently, there are only 25 community based group homes for autistic adults (Ingraham 1980). Of group homes serving these individuals the cost ranges between $12,000 - $25,000 per individual per year. Most of these programs include both residential and day program costs. These group home programs in total serve only 150 individuals, whereas statistics indicate that 200,000 individuals are in need (Warren 1979).

For instance, in Maryland where there are over 1,000 autistic adults, there are only nine community based residential placements for these individuals. The Maryland Society for Autistic Adults and Children has demonstrated that persons with this severe handicapping condition can learn to live successfully in community based placements. The cost of providing community based services to autistic adults in Maryland is far less than the cost of institutionalization. The long-term benefits of community based services are enumerable, since autistic individuals can then have the opportunity to become tax paying citizens.

Nationwide Costs By Community Living Arrangements

	Daily	Monthly	Yearly
Small group homes (six and under)			
High Range	$69.00	$2,070.00	$25,000.00
Low Range	$33.00	$ 990.00	$12,000.00
Institutions			
High Range	$250.00	$7,500.00	$90,000.00
Low Range	$ 83.00	$2,490.00	$30,000.00

The Section 8 Rent Subsidy program often is the backbone of community programs for disabled persons. Low income disabled people seeking living accomodations in the community turn to the Section 8 program, due to its tremendous flexibility. Section 8 can be used to help fund both small group homes (up to 12 people) and independent, semi-independent or supervised living situations for disabled persons. In November 1979, HUD published Section 8 rules for existing housing which specifically recognized Independent Group Residences for handicapped people.

Persons utilizing the Section 8 rental program find that it can be used to subsidize rents in single-family homes, townhouses, apartments or mobile homes. Section 8 certified individuals are free to "shop" for the housing of their choice within the community. Section 8, in addition to being linked to HUD's Section 202 Direct Loan program, can be combined with other means for new construction, substantial rehabilitation or moderate rehabilitation projects or used in the existing housing market. This flexibility makes the Section 8 program invaluable to persons and organizations seeking to establish community settings for disabled people. Consequently, Section 8 plays a major role in efforts to deinstitutionalize disabled individuals. Without the availability of Section 8 rental assistance many of these efforts will fail and disabled persons capable of living in the community will find themselves living in institutions, obviously at much greater cost to the government.

Our organizations are dismayed that President Reagan has targeted the Section 8 program for substantial reductions, including the rescission of approximately 45,000 units this fiscal year. The tables below indicate the severity of the reductions supported by the Administration:

1981 Appropriation	255,000 units
1981 Reagan Administration Rescission Request	210,000 units
1982 Carter Administration Request	260,000 units
1982 Reagan Administration Request	175,000 units

Section 8 rent subsidy annual contributions follow:

1980 Appropriation	$23.7 billion
1981 Appropriation	$25.1 billion
1981 Reagan Administration Rescission Request	$700 million
1982 Carter Administration Request	$25.2 billion
1982 Reagan Administration Request	$19.8 billion

While the figures provided above are disheartening, it is even more disturbing that this Committee has already chosen to support the proposed rescission of 45,000 Section 8 units during the current fiscal year. We urge the Committee to reassess the impact of so drastic a cutback. Without the federal government's support, special populations with special housing needs will not be adequately or equitably served. Though the federal government might save money in the line item of housing assistance, someone will pay--either the federal government through SSI and Medicaid, state government, or the individual with the quality and expectancy of his or her life.

CONCLUSIONS AND RECOMMENDATIONS

The HCFA study previously cited quoted a 1975 national survey of housing advocates and sponsors in the developmental disabilities field, which concluded that "the problem of inadequate funding was ranked as the most serious problem of establishing community facilities." The Wieck/Bruininks 1980 study likewise concluded, "one of the most prominent obstacles in development of community residential alternatives has been funding." This statement has attempted to demonstrate the cost benefits of community residential programs which need HUD financial support. Given these facts, the CCDD Task Force on Housing makes the following recommendations:

(1) Continue to maintain the national commitment to the Section 202 Program;

(2) Keep the Congregate Housing Services Program alive by appropriating at the fy 1979, 1980, and 1981 levels of $10 million;

(3) Appropriate funds to support 250,000 new units of federally assisted housing; and

(4) Earmark HUD research dollars to develop national housing data on the disabled, including at a minimum, a) number of disabled Section 8 recipients, b) number of disabled Section 8 waiting list persons, and c) number of and need for barrier free housing units. Hopefully, this data collection can be specifically built into the Housing Assistance Plan mechanism.

SYNOPSIS OF STATEMENT

Mr. PERL. I would like to begin by summarizing the recommendations which the Consortium Concerned With the Developmentally Disabled has for housing requests that you give favorably consideration to. There are four points. As time permits, I would like to share with you some of the elaboration contained in the full statement.

First, we applaud both the administration and the Congress for retaining a strong and viable HUD section 202 housing program.

Second, we urge that congregation housing services be kept alive by appropriations at the fiscal years 1979, 1980, and 1981, levels of $10 million.

Third, we request that funds be appropriated to provide 250,000 new units of federally assisted housing, to which the disabled would have access.

And fourth, we urge that HUD research dollars be earmarked to develop national housing data on the disabled, including, at a minimum, the number of disabled section 8 recipients, the number of disabled on the waiting list for section 8 services, and the number of persons and the need for barrier-free units, because we believe that, hopefully, this data can be specifically built into the housing assistance plan mechanism.

I would turn your attention to our statement. In that section we have made certain policy assumptions which are very well detailed. I would point out under No. 3 of the policy assumptions that we believe that HUD's promoting and reinforcing of the role of the private sector and its cost benefits is consistent with the objectives of the administration in promoting private industry.

We further believe that the data contained in this document supports our contention that it is more economical and cost efficient to operate programs in the community by the private sector, not only in terms of the actual cost of operation, but in terms of the fact that we have demonstrated that individuals who are dependent by virtue of their institutionalized status can become more independent, contributing members of our society, given adequate training, resources, and support.

I would call your attention also to an error which is contained, a typographical error, on page 4, the last paragraph, where we discuss average costs and cost comparisons. The correct figure for services provided, the average cost, by those 67 agencies surveyed in the private sector is $1,187 per month. The correct figure for the average cost of institutional services in 30 States is $2,884. That correction is included in the document submitted.

If I may for a moment personalize some of these statistics and some of this data. There is information included from the agency which I am the executive director of. When it talks about the comparative costs of services in different kinds of residential environments for mentally retarded and disabled persons, ranging from severely retarded to more moderately retarded, such as those with epilepsy or emotional problems and things of that nature, you can see the per diem costs and monthly costs are, in fact, substantially different. More and more the comparisons of the populations are becoming more similar. That is, we are serving populations which have medical involvement that historically have been precluded from admission in the community.

These are gross figures and they do not include the income and support which the individual himself or herself puts into deferring the cost of his or her care. It also does not include in two of these programs section 8 funds, which are a mainstay of financial support, or the small group residences which utilize congregate living funds and the department programs in which eligibility is determined by the income and disability level of the recipient in the program.

We have, through this program, been able to facilitate the deinstitutionalization of persons in some of these State institutions where the medicaid costs have been much higher. We are concerned in Maryland that the lack of availability of section 8—in fact, many people are on the waiting list, and the States have absorbed some of the costs of some of those section 8 dollars but are now indicating their inability to continue that—may result in the reinstitutionalization of people who are adequately functioning in the community.

KANSAS EXPERIENCE

Another example deals with experiences in Kansas where individuals who have had the opportunity to work vocationally are contributing to their cost of care and deferring the cost, a substantial part of the cost, of their attendant care in a residential facility—in fact, contributing over $179,000 to the tax base of their community based on their earnings. These are individuals who historically have not been financially contributing members of the community.

I submit to you these are not isolated instances but retarded persons with training and proper resources and the appropriate support mechanisms on a time-limited basis may very well become contributing, achieving members of the community.

In summary, the consortium would urge you to recognize that without the Federal Government's support, these special populations with specialized housing needs may not be adequately and equitably served. Though Government may save money in the short run on this housing assistance program, someone will pay, whether it be the Federal Government through SSI or medicaid, State government, or the individual himself through the quality and expectancy of his or her life.

On behalf of the consortium, I thank you for the opportunity to testify. I would be glad to answer any questions you may have.

Mr. BERGER. Thank you very much for your testimony. I think your testimony brings a unique view to some of the things we do here that we don't often have a chance to be exposed to. So for that, thank you.

SECTION 202 PROGRAM

There is, as in most cases nowadays, good and bad news. In some cases there is more bad news than good. The section 202 program that you noted as one of your four programs has been maintained by the administration at last year's level. While we have not yet acted on the 1982 recommendations, this is the administration's proposal.

The congregated housing program, as I am sure you are aware, has just suffered a rescission from both the House and Senate. There is $20 million remaining in that program, which we understand will involve some 65 projects in the demonstration program, and the Congress is anxiously awaiting evaluation of that program to see how it has worked out.

The assisted housing program, we just resolved the House and Senate differences for 1981 in a conference yesterday and we ended up with 210,000 units versus the 260,000 that were anticipated earlier under the previous administration's budget.

As far as P.D. & R. research funds and earmarking those funds for the specific purposes you noted, that will be under consideration during July in this subcommittee, as it will be in the House subcommittee. We appreciate your comments on this issue and will consider them during markup of the fiscal year 1982 bill.

Mr. PERL. Thank you, sir.

Mr. BERGER. Thank you very much.

STATEMENT OF JOHN S. BUSH, JR., VICE PRESIDENT, GOVERNMENT AFFAIRS FOR THE UNITED STATES GYPSUM CO., CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA

ACCOMPANIED BY WILLIAM D. KELLEHER, ASSOCIATE DIRECTOR FOR CONSTRUCTION, HOUSING AND COMMUNITY DEVELOPMENT

Mr. BERGER. Is Mr. Bush here?

Mr. BUSH. Here, sir.

Mr. BERGER. Welcome.

Mr. BUSH. We certainly appreciate the opportunity to be here. I am going to briefly highlight from our testimony which will be submitted for the record.

Mr. BERGER. Fine. Senator Garn will be rejoining us as soon as possible. He is at another hearing and sends his apologies for not being here at this time. But you may go ahead.

Mr. BUSH. Thank you very much.

STATEMENT HIGHLIGHTED

My name is John Bush. I am vice president, governmental affairs, for the United States Gypsum Co. I am speaking today on behalf of the Chamber of Commerce of the United States and its 120,000 members throughout the United States.

With me is Bill Kelleher, the chamber's associate director for construction, housing and community development.

Generally, the U.S. Chamber totally supports the Reagan administration's program for economic recovery in its efforts to reduce Federal taxing and spending, cut excess regulation and provide monetary stability.

Since the heady days of the Great Society, there have been considerable changes in our economy that necessitate a complete and thorough evaluation of Government spending programs. The issues confronting the American economy at present are radically different from those of the mid-sixties, when much of the expansion of the public sector was undertaken. During the 1960's, a high real growth and comparative price stability made expansion of transfer payments and Government service programs appear relatively costless.

Currently, however, stagnant real growth and continued price volatility make the economic costs of additional Government spending prohibitive. Instead, a period of retrenchment and consolidation is called for. This does not presuppose a dismantling of the welfare state so much as a systematic review of fiscal priorities designed to eliminate ineffective programs without sacrificing essential services for the truly needy.

ELIMINATION OF PROGRAMS SUPPORTED

The U.S. Chamber supports the administration's proposed reductions and reforms in the HUD budget. We support the elimination of the 312 rehabilitation loan program, section 701 planning assistance, the solar energy and energy conservation bank and the neighborhood self-help development program.

Substantial economic incentives already exist for investment in solar energy and other energy conservation measures as a result of steadily rising energy prices. We have seen this clearly in the price of gasoline in recent days, for example.

The other programs scheduled for elimination can be continued at the discretion of local units of government using community development block grant funds. The use of CDBG funds for these activities will help eliminate duplication of effort and the high cost of Federal involvement in local decisionmaking and will provide greater flexibility to localities.

Finally, the U.S. Chamber supports the proposed reduction in the number of units to be subsidized under the section 8 program and the gradual increase in tenant contributions under the program from 25 percent to 30 percent of gross income as well as reform in the determination of tenant income. We also support the phaseout of the Government National Mortgage Association tandem programs. These cutback and reforms along with the other minor changes proposed for such programs as housing counseling assistance and research and technology spending will improve the efficiency and effectiveness of HUD and its programs.

As the Reagan administration moves to bring inflation under control, it will begin to create economic conditions that will reduce interest rates, stimulate private development, open jobs, and make possible affordable housing for more Americans.

Let me point out, under all of these programs, only about 1 out of 11 qualified Americans ever received any benefits under these programs. As a result of the hemorrhage that these things have created on our national economy, now most Americans cannot afford housing.

With an improved economy, our cities and communities will experience a prosperity which federal programs promised but never realized.

Recently there has been serious debate about the share of capital funds allocated to housing. Some of the more prominent Reagan advisors are saying much too much has been spent on housing. This is a misunderstood concept because it is excessive federal borrowing that is the root cause of monetary instability in the country.

On page 12 we show a Federal Reserve Flow of Funds chart, and it shows, for example, from just after World War II up until the end of the past decade that residential mortgages accounted for 22 percent up to 23 percent -- just a one percent increase in the demand for credit in the United States; whereas, the U.S. Treasury and the federal agencies over that period advanced from about 8 percent to presently about 26 percent. They trebled it. This is where so much of the needed capital in our economy has gone. So controlling and the reduction of federal programs is the root cause, I believe, of our housing problem.

Finally, the Reagan program of spending restraint, tax restructuring and relief, regulatory reform and monetary control is bold and sweeping; yet it is also imperative. If we are to restore many of our older cities to their past vitality, provide affordable housing for young families and assist the truly needy in obtaining adequate shelter, we must first return our nation to economic health.

The modest program reductions proposed for HUD will allow that one part of the federal bureaucracy to make its contribution to this effort.

We thank you very much for this opportunity to testify. We would be happy to answer questions or submit further information for the record, if that is desired.

Senator Garn [presiding]. Thank you, Mr. Bush. I appreciate your testimony today. Thank you for coming.

Mr. Bush. Thank you, Senator.

[The statement follows:]

Statement of John S. Bush, Jr., Chamber of Commerce of the United States of America

CITIES', HOUSING'S NEEDS BEST SERVED BY ENDING INFLATION, CHAMBER OFFICIAL SAYS AT SENATE APPROPRIATIONS SESSION

WASHINGTON, June 3 -- The nation's cities as well as the housing needs of its citizens -- regardless of income level -- can best be served through enactment of the Administration's economic program, a witness for the U.S. Chamber of Commerce testified before a Senate panel today.

For that reason, Congress should accept the White House proposals providing for modest program reductions from the Carter Budget request for the Houding and Urban Development (HUD) Department in the fiscal year beginning October 1, said John S. Bush, Jr., in testimony scheduled before the Senate Appropriations Committee's Subcommittee on HUD-Independent Agencies. Bush, vice president, governmental affairs, United States Gypsum Company, presented the business organization's testimony as a member of the Chamber's Construction Action Council Executive Committee.

"The current crisis in housing," the Chamber witness stated, "is a crisis in affordability that has been with us throughout the 1970s and has been dramatically highlighted by the current increase in mortgage interest rates." Rather than resort to subsidies for home buyers, he added, the only real solution is "stopping inflation and increasing purchasing power of the families of America."

Commenting on the selling price of new housing units, the Chamber spokesman spoke out in favor of ending outdated building codes, restrictive zoning and subdivision regulations and other costly factors, saying, "More efficient building and development regulation could help keep home ownership part of the American dream."

As for rental housing, he continued, one reason for the decline in available units is due to the low incomes of many potential renters. A revitalized economy, Bush explained, would permit an increase in wages to allow the rental income families and individuals require, and afford landlords some control over the costs of maintaining such units. In addition, government should "provide incentives for the provision of rental housing and eliminate disincentives such as rent control which ultimately leads to destruction of rental housing," he added.

Some of the programs to be terminated under the Administration budget proposal, Bush explained, can be financed through economic incentives existing in additional government programs. As for others scheduled for elimination, they can be continued through use of Community Development Block Grant (CDBG) funds, whose use "will help eliminate duplication of effort, excessive federal involvement in local decision-making, and provide greater flexibility to localities."

One aspect of President Reagan's economic package that would have a dramatically beneficial result to cities would be the reduction in marginal personal income tax rates, the Chamber statement pointed out:

"Most of the attention to the individual rate cuts has been focused on consumer effects... Yet the so-called 10-10-10 program of individual tax rate cuts would directly lower business tax liabilities for almost 90 percent of all businesses and would indirectly make capital more readily available to small business by increasing savings at an estimated $90 to $120 billion annual rate.

"The potential benefits of this type of tax relief for cities and small business dwarf the efforts of various government-dominated subsidy programs that have been ineffective in the past," the Chamber concluded.

The Administration's budget proposals are based on a belief in real economic growth which is a prerequsite for reducing inflation and unemployment. A strong expanding economy is the key to solving our housing and urban problems. Budget reductions in programs such as Section 8 Rental Assistance or 701 Planning assistance are proposed not because the Administration is mean-spirited or less compassionate, but because we must reduce the excessive claim the federal government has put on our scarce resources, resources needed for private investment to produce more goods and services and stimulate the creation of more jobs. Tax reductions are needed, not to redistribute income but as an incentive for creating more income.

The nation is in the midst of the greatest slump in the housing industry since World War II and an ever-increasing proportion of our cities are operating in deficits that are projected to grow even larger during the coming years. Both problems have a common cause--inflation. Inflation is the result of excessive government spending, taxing, regulating and borrowing that is robbing our economy of its vitality and ability to create wealth. To get inflation under control and return our economy to health, the Congress should adopt the spending and tax programs proposed in President Reagan's Program for Economic Recovery.

Need to Control Spending

Perhaps the most difficult task facing the new Administration and Congress will be to control federal spending. The federal government's share of the gross national product has increased steadily from around 18% in the early 1960's to a projected 23% in this fiscal year. Whether the budget growth is financed by taxes or borrowing, this increase adversely affects our economic performance by absorbing ever-increasing amounts of resources from a weakened private sector, resources that could better be used by individuals and businesses to meet the challenge that now confronts us.

For the past twenty years, this country has tended to view federal spending as a costless way of solving perceived problems or meeting newly devised national objectives. Unfortunately, however, the government has failed to consider what effect this shift in resources would have on the private sector's ability to compete in a more competitive world. Government also failed to realize how expensive these programs would become as benefits were expanded to a greater number of recipients.

Since the heady days of the Great Society, there have been considerable changes in our economy that necessitate a complete and thorough evaluation of government spending programs. The issues confronting the American economy at present are radically different from those of the mid-Sixties, when much of the expansion of the public sector was undertaken. During the 1960's, a high real growth and comparative price stability made expansion of transfer payments and government service programs appear relatively costless.

Currently, however, stagnant real growth and continued price volatility make the economic costs of additional government spending prohibitive. Instead, a period of retrenchment and consolidation is called for. This does not presuppose a dismantling of the welfare state so much as a systematic review of fiscal priorities designed to eliminate ineffective programs without sacrificing essential services for the truly needy.

Specific Reductions

The U. S. Chamber supports the Administration's proposed reductions and reforms in the HUD Budget. We support the elimination of the 312 Rehabilitation Loan Program, Section 701 Planning Assistance, the Solar Energy and Energy Conservation Bank and the Neighborhood Self-Help Development program. Substantial economic incentives already exist for investment in solar energy and other energy conservation measures as a result of rising energy prices.

The other programs scheduled for elimination can be continued at the discretion of local units of government using Community Development Block Grant (CDBG) funds. The use of CDBG funds for these activities will help eliminate duplication of effort and excessive Federal involvement in local decision making, and will provide greater flexibility to localities.

The Chamber also supports the restructuring of the CDBG program and the decision to no longer maintain a separately funded Urban Development Action Grant (UDAG) program. As former HUD Secretary Carla Hills has pointed out, UDAG was developing all the worst characteristics of the Federal grant-in-aid system with its reliance on paper-pushing and grantsmanship and a lack of demonstrated national impact. As we pointed out in our statement on the FY 1981 HUD budget, while UDAG funds may benefit an isolated project, this program benefits a small number of communities at the expense of overall business development.

Finally the U. S. Chamber supports the proposed reduction in the number of units to be subsidized under the Section 8 Program and the gradual increase in tenant contributions under the program from 25% to 30% of gross income as well as reform in the determination of tenant income. We also support the phase-out of the Government National Mortgage Association "tandem" programs. These cutback and reforms along with the other minor changes proposed for such programs as Housing Counseling Assistance and Research and Technology spending will improve the efficiency and effectiveness of HUD and its programs.

As the Reagan Administration moves to bring inflation under control, it will begin to create economic conditions that will reduce interest rates, stimulate private development, open jobs and make possible affordable housing for more Americans. With an improved economy,.our cities and communities will experience a prosperity which Federal programs promised, but never realized.

Distribution of Benefits

One of the most significant questions facing the President's Economic Recovery Program is whether the costs and benefits from the program will be fairly distributed across the country. While data limitations make a definitive answer difficult, based on an April 1981 Office of Management and Budget study, we can say that the President's program will have a positive impact on all parts of this land. Table 1 details the specific increases in personal income and reductions in taxes and reductions in government outlays.

The benefits from the President's program outweigh the loss in government programs by better than 5 to 1. In fact, with the exception of the South, tax reductions alone provide benefits in excess of the reductions in federal outlays.

Long Term Outlook for Housing

If the Congress supports President Reagan's efforts to return the nation to economic health, the long term outlook for the housing industry is good. Housing demand is currently at record levels. It is expected to swell even more dramatically in the 1980's. This is due to basic demographic trends now impacting the U. S. population. Declining household size will mean that a larger number of housing units than in the past will be needed to provide shelter for our population. Average household size was recorded at 3.33 in 1960. It declined to 3.14 in 1970. In 1979, the U. S. Census Bureau estimates household size at approximately 2.77. The Bureau has projected that by 1990,

Table 1

PER CAPITA INCREASE IN DISPOSABLE PERSONAL INCOME AND PER CAPITA OUTLAY REDUCTIONS, BY REGION
FISCAL YEAR 1982
(Dollars)

Region 1/	Increase in personal income	Personal income tax reduction	Increase in disposable personal income	Distributable outlay reductions
U. S. total	970	191	1,161	166
Northeast	1,000	211	1,211	170
Midwest	1,040	206	1,246	158
Subtotal	1,020	209	1,229	163
South	900	163	1,063	169
West	980	188	1,168	168
Subtotal	930	172	1,102	169

1/ Census Bureau Regions

household size may decline to as low as 2.41. Lower birth rates, more single-person households, changes in life-style resulting in delayed marriages and higher divorce rates all are reasons for this decline.

Shifting patterns in the age structure of the population will also be a major force shaping housing needs. The maturing of the "baby boom" generation into home buyers has already started to have a dramatic impact on the housing market. Households headed by individuals 25 to 34 years of age accounted for approximately half the single-family houses sold in 1977. In 1978, approximately 17 million households fell into this age group. This group is expected to grow by 6 million during the 1980's to 23 million households.

The increase in this age group will be matched by an overall increase in the number of households. The Census Bureau projects that by 1990 there may be as many as 107.5 million households in the United States, compared with 76 million in 1978.

Thus, an unprecedented demand for housing will face this country in the coming years. The Mortgage Bankers Association of America estimates that 2.2 to 2.4 million housing starts per year will be needed during the 1980's to provide housing for new households and replace losses to existing housing stock.

During the 1970's, the number of housing starts rose and fell in a dramatic fashion. George Christie, chief economist for McGraw-Hill Information Systems, noted in a recent construction forecast the housing market could have absorbed approximately 2 million housing starts per year during the 1970's. But, we consistently failed to sustain that level of production. Because of this production shortage, this country has seen a nationwide housing auction that has pushed housing prices to record levels.

The demographic trends producing this effect in the 1970's will continue to join over-regulation of the housing and construction industry to push home prices even higher. The National Association of Home Builders (NAHB) is forecasting an average new home price will be $112,200 by 1985. (see Table 2)

TABLE 2

MEDIAN SALES PRICE
AVERAGE NEW HOME

Year	Amount	
	New	Existing
1980	$ 64,600	$ 62,200
1985	112,200	105,000
1990	199,700	183,500

Source: National Association of Home Builders

Housing Affordability

The current crisis in housing is a crisis in affordability that has been with us throughout the 1970's and has been dramatically highlighted by the current high mortgage interest rates. Since 1972, the average sale price of a single-family home has almost doubled. The average new home now costs over $60,000. The family income required to qualify for the median-priced home was about $13,000 in 1973. Now, it's about $25,000.

An increasing number of families is being priced out of the market by housing costs that are increasing faster than their incomes. The families most affected by this trend are young ones, with incomes between $16,000 and $25,000. Demand for housing remained strong through much of 1979 because many families believed that inflation would push the price of housing even further out of their reach. However, when average interest rates for home mortgages range between 13 and 15 percent and the average monthly payment for principal and interest on a median home soars to over $650, effective housing demand is severely damaged if not destroyed. This escalation in housing prices and mortgage interest rates is specifically hard on first-time homebuyers. Between 1977 and 1979, homebuyers classified as first-time buyers declined from 36 percent to 18 percent.

The shrinkage in effective housing demand is part of a long term trend that has resulted in an ever decreasing portion of American families being able to purchase a new home. Bernard Frieden and Arthur Solomon of the Joint Center for Urban Studies of the Massachusetts Institute of Technology and Harvard University conducted a 1977 study of the nation's housing needs. They concluded that 46 percent of America's families could afford to purchase a new median-priced home in 1970. They estimated that six years later, only 27 percent could afford a new median-priced home. NAHB currently estimates the home buying capability of the American public has been reduced even further. NAHB estimates that only 15 percent of American families presently have incomes sufficient to qualify them for the purchase of a median-priced, new single-family home. As shown in Chart 1, this is a marked decline from earlier housing markets.

There is a two-fold implication for the HUD budget from this trend. First, as housing prices continue to escalate faster than income, more and more potential homebuyers will be pushed from the new home market into other

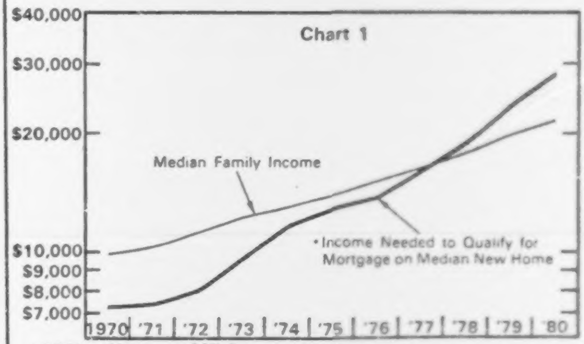

Chart 1

•25-Year Mortgage; 20% Down payment.

Sources: U.S. Dept. of Commerce, Federal Home Loan Bank Board, Value Line

parts of the housing market. Because fewer new homes will be built, competition for existing housing will increase, driving up its price.

In many cases, rent control has limited the ability of multi-family housing to fill the gap created by reduced production of single-family housing. This overall increase in the cost of existing housing will reduce the amount of shelter HUD can expect to provide from its current subsidy program.

The impact of increased competition is already having a major adverse effect on low-income families. Hardship from excessive housing costs now equals poor housing quality as a problem for low-income families.

The second impact of this trend is the pressure that will be put on Congress and the Administration to expand direct Federal housing subsidies. Originally, the direct subsidy programs were aimed at low-income families, and gradually we have seen them expanded to those with moderate incomes. Now, inflation is creating pressure for the provision of direct subsidies to middle-income families to help them pay for housing. More subsidies are not the answer to this problem. Stopping inflation and increasing families' purchasing-power is the only real solution to this part of the housing crisis.

The Future of Rental Housing

No segment of the housing industry has suffered more from the effects of inflation than rental housing. Rental housing vacancies have reached a twenty-year low in the last year, and we have seen a change in the mix of new rental construction from a market dominated by the private sector to one that is increasingly dependent on public support.

The paradox of the rental housing market is that, while vacancy rates are low, an ever increasing number of multi-family structures are abandoned by their owners because of skyrocketing operating costs and the lack of re-investment capital. This continued abandonment of housing before its normal physical obsolesence adds to the shortage of housing and produces urban blight and economic decay.

Economic pressures and the erosion of the traditional property rights through such devices as rent control and restrictions on condominium conversion have turned rental housing from a readily available source of inexpensive shelter into an expensive form of housing.

There are approximately 26 million rental units in the country of which roughly 2 million are public housing. The average income of a household renting an apartment in this country is $8,800 per year or about one-half of the average income for homeowners. One of the major long-term problems facing the rental housing industry is the lack of effective demand because of the low incomes of many potential renters. The answer to this problem is not increasing subsidies to augment the income of renters, but rather a rebuilding of our economy to allow for economic growth and an increase in the real wages of all Americans to allow them to purchase the goods and services they desire. The key to economic growth is investment by the private sector to increase productivity.

Declining productivity and the lack of real economic growth are two major threats to the health and stability of all segments of the housing market. Currently, this is especially true for rental housing because inflation in operating costs and high interest rates are destroying the ability of both renters and landlords to finance this type of shelter.

Over time, the capacity of renters to pay higher rents must be developed, and inflation must be controlled so that the costs of building and maintaining rental units do not increase faster than tenants' incomes.

Another major factor discouraging the production of rental housing is rent control. Nearly 60 percent of all rental housing is in buildings with four units or less, which are typically owned by small entrepreneurs. Because of the small number of units involved in each instance, it is in the interest of the landlord to minimize vacancies and retain a stable group of renters. These factors, more than any rent control ordinance, work to minimize rent increases by this type of owner. Rent control forces this type of small scale provider of shelter out of the market because they cannot obtain rents that allow them to either maintain their buildings properly or offer them as attractive investment to new owners.

Government at all levels should work to provide incentives for the provision of rental housing and eliminate disincentives such as rent control which ultimately leads to destruction of rental housing.

Mortgage Money

The cost and availability of mortgage financing traditionally has had a major impact on the housing industry and homebuyers. The current housing slump was caused by a major escalation in mortgage interest rates. However, these rates have increased steadily for the past several years.

Prior to the present housing slump, various devices have been used to keep funds available to the housing market. Recently we have seen the use of money market certificates to help thrift institutions retain savings funds and the introduction of alternate mortgage instruments ranging from graduated payment mortgages to the new rollover mortgages. All these devices can help to smooth the curves in the housing cycle, but they are not and cannot be a replacement for stability in interest rates at a non-inflated level.

A recent new source for home mortgage money has been the secondary mortgage market based on mortgage-backed securities. This investment-oriented source of funds cannot operate efficiently because until recently there has been reduced investor interest in the long-term, fixed-rate market. The rise in long-term rates reflects the uncertainties generated by uncontrolled inflation resulting from excessive government spending. The key to obtaining a stable source of mortgage money through both the primary and secondary mortgage markets is to control inflation by eliminating government deficit spending so that there will be sufficient capital available for investment and a willingness on the part of investors to invest in long-term securities. A healthy secondary mortgage market is vital to the housing industry.

Fluctuations in the availability and cost of mortgage money have subjected housing construction to sharp, cyclical changes. During the 1970's, the number of housing starts ranged from a high of 2.38 million in 1972 to a low of 1.17 million in 1975. Housing prices at the peaks of the cycle must be increased to cover the cost of plant and equipment that stands idle during slack periods. During downturns in construction activity, the capacity for manufacturing materials and components used in housing construction is underutilized and many skilled managers and workers are forced out of the industry. When construction activity increases, workers demand higher wages to compensate them for periods of unemployment. And the return on plant and equipment used in manufacturing building materials must be adjusted to make up for losses during idle periods. The price of land and interest rates is also distorted by these fluctuations in the construction cycle.

Recently, there has been serious debate about the share of capital funds allocated to housing. While it is clear that we are spending large amounts of money for residential mortgages, its share of the overall market remains relatively constant. (See Table 3). The role of federal borrowing in the economy has grown more rapidly than any other source in recent history. It is excessive federal borrowing that is the root cause of monetary instability in the country. This is why all four parts of the President's program must be implemented if we are to have a healthy housing industry.

TABLE 3

COMPOSITION OF CREDIT DEMAND
SHARE OF TOTAL FUNDS RAISED BY SECTOR
1946-1978
(in billions)

	Average Annual Funds Raised	Business	Residential Mortgages	Consumer Credit	U. S. Treasury	Federal Agencies	State & Local	Other
1946-1949	$ 24.4*	48.2%	22.4%	12.0%	%	0.1%	6.4%	10.9%
1950-1959	36.6	37.4	28.5	9.4	5.8	1.8	12.3	4.8
1960-1969	79.9	36.7	24.4	8.9	5.5	4.0	8.6	11.9
1970-1974	254.7	53.0	16.8	5.5	5.7	5.1	5.8	8.1
1975-1978	351.0	24.3	23.3	8.4	19.0	6.8	6.7	16.9
Average Share		39.9	23.1	8.8	7.2	3.6	8.0	

[*] During the 1946-1949 period the U. S. Treasury loaned funds of $8.63 million. Thus, the share of total funds raised by the other sectors does not take this amount into account.

Source: Federal Reserve Flow of Funds accounts, annual net flows.

Reducing the Cost of Housing

While higher mortgage interest rates are an obvious contribution to the rising costs of housing, there are other significant factors that have caused housing prices to rise.

Federal, state and local regulations have also increased the cost of housing. Housing experts such as George Sternlieb of Rutgers University, think that 20 percent of the current cost of housing can be traced to excess or antiquated government regulation.

Outdated building codes hinder the development and introduction of new cost-saving materials and techniques. The larger number of code-issuing jurisdictions--each with the authority to pass its own unique code requirements--retards the standardization of building products which would also help reduce costs. Even communities that adopt one of the major "model" codes often amend them, making revisions and deletions that are restrictive in nature.

The lack of coordination between various housing codes and code officials frequently causes delays and confusion. One builder in the Midwest noted that no less than six different inspectors had to approve a house before it could be occupied.

Local land use and development restrictions also add to the cost of housing by causing delays in the building process and needlessly restricting the supply of land available for housing. Restrictive zoning and subdivision regulation--such as large-lot zoning, moratoriums on water and sewer line hookups and slow growth and anti-growth development policies--are increasing housing costs in many communities. Moreover, such restrictions have the effect of not allowing homes to be built that can meet the needs and financial capabilities of young families.

The Urban Land Institute in a recent survey of 12 metropolitan areas found that improved lot prices increased an average of 109 percent and raw land increased at an average of 97 percent between 1975 and 1980. In certain parts of the country such as San Diego, the average single-family improved lot price is now approximately equal to the median sales price of a new home in 1975.

American homes are bigger and more complex than ever before, accounting in part for the increase in the cost of housing. However, these homes are costing more than they need to. More efficient building and development regulation could help keep homeownership part of the American dream.

Inflation and the Cities

The Joint Economic Committee of Congress recently released a study on trends in the fiscal condition of cities. In surveying approximately 300 cities of various sizes and in all parts of the country, it found that, for all cities, current expenditures are rising faster than current revenues and the number of cities operating at a deficit is growing. The study projected a growing number of cities experiencing severe fiscal stress as their expenses are pushed up by inflation and their revenues fall behind because of slow economic growth.

The economic well-being of our cities rests on two points--controlling inflation so that their costs can be managed, and stimulating economic growth to provide the jobs and revenues to meet the needs of their citizens.

HUD currently offers several programs to encourage reinvestment in our cities. These programs can help in individual cases. However, it must be recognized that these programs do not have the capacity to control the amount of resources needed to rebuild the cities. The most important steps in rebuilding our cities are establishing a vital and productive national economy and creating an atmosphere that encourages and rewards innovation and risk-taking. Efforts to reduce bureaucratic delays and eliminate hostility to business development can be more important than grants in attracting business back to the cities.

Tax Cuts, Small Business and Cities

Our nation's cities have traditionally been the birthplace of many small businesses, and it is small business that produces the vast majority of new jobs in our economy. Part of any effort to restore the economic vitality of cities must include efforts to improve the environment for small business. Traditionally, government has attempted to stimulate the growth of small business through various loan and grant programs. While no one doubts the good intentions of those advocating this approach, it simply does not reflect the realities of small business capital formation. Only 3% of all small businesses use government programs as part of their original capital. In fact, the overwhelming majority of small businesses are started from the savings of individuals, their families or friends. Tax reductions that put more money in the hands of individuals can have a major impact in helping small business and the cities in which they are located.

One of the most overlooked elements of the Administration's proposed 30% reduction in marginal personal income tax rates is the substantial benefit it would bring to small business.

Most of the attention to the individual rate cuts has been focused on consumer effects, and even small business executives themselves seem not to be fully aware of the benefits they could gain.

Yet, the so-called 10-10-10 program of individual tax rate cuts would directly lower business tax liabilities for almost 90% of all businesses and would indirectly make capital more readily available to small business by increasing savings at an estimated $90 to $120 billion annual rate.

The potential benefits of this type of tax relief for cities and small business dwarfs the efforts of various government subsidy programs that have been ineffective in the past.

Summary and Conclusion

In presenting his Program for Economic Recovery, President Reagan described a coordinated, comprehensive series of policies. As the President states, the purpose of his program is to ". . . break the cycle of negative expectations (and) revitalize economic growth, renew optimism and confidence, and rekindle the Nation's entrepreneurial instincts and creativity."

His program of spending restraint, tax restructuring and relief, regulatory reform and monetary control is bold and sweeping; yet it is also imperative. If we are to restore many of our older cities to their past vitality, provide affordable housing for young families and assist the truly needy in obtaining adequate shelter, we must first return our Nation to economic health.

The modest program reductions proposed for HUD will allow that one part of the federal bureaucracy to make its contribution to this effort.

STATEMENT OF STEPHEN F. DARLEY, EXECUTIVE DIRECTOR, NEIGHBORHOOD HOUSING, INC., NATIONAL CONGRESS FOR COMMUNITY ECONOMIC DEVELOPMENT

ACCOMPANIED BY JOHN WALKER

Senator GARN. Next is Mr. Stephen F. Darley, executive director, Neighborhood Housing, Inc., National Congress for Community Economic Development.

Mr. DARLEY. Mr. Chairman, I would like to thank you for the opportunity to testify before the subcommittee on behalf of the National Congress for Community Economic Development. My name is Stephen F. Darley. I am the executive director of Neighborhood Housing, Inc., in New Haven, Conn. With me is John Walker, who is with the National Congress for Community Economic Development.

Just as an aside, I would like to note that I was born and raised in your home State of Utah and in a small town called Hyrum.

Senator GARN. Cache County.

Mr. DARLEY. That is right.

Senator GARN. When you are a Senator from a State, even a geographically big one like Utah, you know where every town is and which county it is in——

Mr. DARLEY. I am sure you do, Senator.

Senator GARN [continuing]. If you want to be reelected. [Laughter.]

NEIGHBORHOOD SELF-HELP DEVELOPMENT PROJECTS

Mr. DARLEY. The community which I represent includes White ethnic, Black, and Hispanic populations. Our association has undertaken two major projects supported by neighborhood self-help development grants in two separate neighborhoods within New Haven.

One of our neighborhood self-help development projects took place in a neighborhood of about 16,000 persons predominantly white ethnic but with 15 percent of the population Hispanic and 10 percent of the Black population. According to the 1970 Census, the median income is $8,500.

The purpose of the project that we undertook in that neighborhood was to do housing rehabilitation for both owner-occupied and absentee-owned properties, using a combination of three different funding sources—two from the State and one from the National Trust for Historic Preservation. We got a total of $350,000.

The program was totally administered by us and was made possible by a $63,000 grant for administrative funds from the neighborhood self-help development program. In addition to that, we leveraged money using community development block grant money and the section 8 moderate rehabilitation program.

The second project involved a neighborhood self-help grant of $133,000 in the Dwight-Edgewood neighborhood of New Haven under the section 8 substantial rehabilitation neighborhood strategies area project. This involved 21 different buildings, 120 units, in a four-block area. Many of the buildings were deteriorating, boarded up, or damaged. And we are doing this in two separate phases.

The second phase is 96 units in 19 separate buildings. The total project cost is close to $11 million.

Without the assistance of the neighborhood self-help development program money we would not have been able to carry out either one of these two projects. They are both making a substantial impact on the neighborhoods. In the case of the first neighborhood, that neighborhood has really begun to turn itself around. In the case of the second neighborhood where we are doing the section 8 program, this will be the key aspect of the neighborhood revitalization project.

The neighborhood self-help is one of the few programs that allows for this type of creative and effective local activity that leads to better relations between neighborhood development organizations, like ours, and local governments and the private sector and, consequently, improved declining neighborhoods.

It is also important that this sole national source of direct support for neighborhood-based organizations involved in local community improvement efforts be retained as a direct Federal resource. The reason is that it is important to other potential local supporters—private, State, local—for neighborhood projects like ours to have the backing of the Federal Government. In addition, it is important that the Federal Government insures that support for neighborhood revitalization is consistent across the country.

There are, of course, many other neighborhood groups across the country that have done excellent jobs at significantly improving the condition of their neighborhoods with the assistance of the neighborhood self-help program.

RESPONSIBLE FOR TURNAROUND

Neighborhood self-help is a strong force in America today. It has been a major factor in turning rubble into gardens, slums into livable homes, unemployed youth into work crews, and poverty into money-making ventures.

Neighborhood self-help is happening in rural and urban settings, with groups composed of American Indians, Blacks, Hispanics, Whites, and every possible ethnic and racial mixture. Its leaders use their know-how and carefully cultivated connections to push and direct the growth of their neighborhoods like ward healers did in the past.

We feel neighborhood self-help groups have taken the physical and economic development of their communities into their own hands.

The rest of our testimony details a number of different self-help projects which I won't go into at this point, in all sections of the country, involving a number of different types of housing, economic development, solar energy, and other kinds of activities.

Again, I want to emphasize that the self-help program, as it has been administered by HUD and funded on a project-oriented basis, has made a substantial impact in a lot of neighborhoods. We can certainly see the benefits and results of the self-help program in our own neighborhoods.

Mr. Chairman, we thank you and the Subcommittee on HUD and Independent Agencies for the opportunity to testify. I would be happy to answer any questions.

Senator GARN. Thank you. I appreciate very much the fact that you would come today and present your testimony. I shouldn't say it, but I can't help myself, you are definitely welcome because you are from Cache County.

Mr. DARLEY. Thank you.

Senator GARN. Thank you.

[The statement follows:]

STATEMENT OF STEPHEN F. DARLEY, EXECUTIVE DIRECTOR, NEIGHBORHOOD HOUSING, INC., NATIONAL CONGRESS FOR COMMUNITY ECONOMIC DEVELOPMENT

Mr. Chairman, I would like to thank you for the opportunity to testify before the subcommittee to present the views of the National Congress for Community Economic Development (NCCED), a national membership association for community development corporation pertaining to the continuation of the Neighborhood Self-Help Development (NSHD) program in its present form.

I am Stephen F. Darley, Executive Director of Neighborhood Housing, Inc. located in New Haven,Connecticut. The community which I represent includes White ethnic working class, Black, and Hispanic populations. Neighborhood Housing, Inc. has undertaken major projects supported by NSHD grants in two separate neighborhoods within our service area.

One of our NSHD supported projects took place in a neighborhood of about 16,000 persons predominantly white ethnic but with 15 percent of the population Hispanic and 10 percent of the population Black. According to 1970 census data the median annual income in the neighborhood is $8,500. The purpose of the project is to improve the condition of old deteriorating owner occupied housing located in the area along the Quinnipiac river part of which is a historic district. The structures are mostly 2 and 3 decker wood frame houses. The Connecticut Department of Housing and the National Trust for Historic Preservation provided $200,000 for rehab loans. The loans are offered at 7 percent interest to home owners in the neighborhood. The program totally administered by Neighborhood Housing, Inc. was made possible by a $63,000 NSHD grant which was used for administrative costs for the program. Community Development Block Grant (CDBG) and Section 8 moderate rehab funds have also been used in the project.

The second project involving a NSHD grant of $133,000 was undertaken in the Dwight-Edgewood neighborhood of New Haven. This project entails scattered site substantial rehabilitation of multi-unit buildings using Section 8 substantial rehab funds within a 4 block area. Most of the buildings involved were severely deteriorated and many were boarded up. The first phase of the project includes the substantial rehabilitation of 120 low and moderate income units in 21 separate buildings while the second phase includes the substantial rehabilitation of 96 low and moderate income units in 19 separate buildings. The total project cost is close to 11 million. I am convinced that in the case of both projects, without the support provided via the Neighborhood Self-Help Development program neither project would have succeeded. In essence the Neighborhood Self-Help program provided the necessary resources to enable Neighborhood Housing, Inc. to follow through on ideas it had about improving the conditions that existed within the neighborhoods it serves.

The Neighborhood Self-Help program is one of the few programs that allows for this type of creative and effective local activity that can only lead to better relations between neighborhood development organizations and local governments and consequently improve declining neighborhoods. It is also important that this sole national source of direct support for neighborhood-based organizations involved in local community improvement efforts be retained as a direct federal resource. The reason being that it is important to other potential local supporters for such neighborhood projects to see the backing of the federal government. In addition, it is important that the federal government ensures that support for neighborhood revitalization is consistent across the country.

There are of course many other neighborhood groups across the country that have done admirable jobs at significantly improving the conditions of their neighborhoods with the assistance of the Neighborhood Self-Help program.

Neighborhood Self-Help is one of the strongest forces in America today and a major factor in turning rubble into gardens, slums into livable homes, unemployed youth into work crews, and poverty into money-making ventures.

Neighborhood Self-Help is happening in rural and urban settings, with groups composed of American Indians, Blacks, Hispanics, Whites and every possible ethnic and racial mixture. Its leaders, strong personalities with folk-hero histories, use their know-how and carefully cultivated connections to push and direct the growth of their neighborhoods like ward healers did in the past.

The Self-Help groups have taken the physical and economic development of their communities into their own hands.

Ruby Duncan was a welfare mother, struggling to bring up seven children in the devastated west side of Las Vegas. In the 60's, she organized the women throughout the city who couldn't make ends meet into a welfare rights force and, in a march of thousands one day, shut down the gambling strip -- an action that a union leader had tried and been murdered for earlier. When she discovered that welfare didn't stop poverty, she turned to harder tactics, and founded a community development corporation. Staffed by women, Operation Life now renovates housing, runs State-wide social service programs, and is in the midst of repairing an enormous abandoned market to rent as commercial space and to house their health care center.

In the rural community of Saticoy, California, the 40year old farmworker camp known as Cabrillo Village was declared substandard by the State. Rather than repair the camp, the growers issued eviction notices to the nearly 100 village families. Protesting the eviction, the families finally pulled their resources together, bought the village, and organized it into a corporative housing corporation. This unique Self-Help group is now attacking poverty from all sides -- through housing rehabilitation, new construction, and economic ventures including a ceramic tile factory.

Orthodox Jews and Hispanics are working together in Brooklyn's Boro Park, through two neighborhood groups that joined forces to renovate and manage 177 units of housing in a two-block area, raising substantial amounts of money from the community for their work.

Borough Park represents another aspect of neighborhood ingenuity, the ability to take a specific pot of administrative money and parlay it many times over as project seed money. The Southern Brooklyn Community Organization was able to use its Self-Help Development grant to make itself eligible to receive almost $6 million in public and private housing funds. The $150,000 grant from Self Help pays about half of the money the organization needs to package loan and grant applications for over 120 units of substantially rehabilitated housing.

The United Front (once known as the Black United Front), in Cairo, Illinois, is building a granary as a joint venture with local farmers and residents and with local bank financing, because the area's low-income farmers were spending too much transporting their grain to distant storage facilities.

In Passaic, New Jersey, where rubble once filled vacant lots, a set of prefabricated, manufactured houses are being lifted into place at the remarkably low cost of $30,000 for a 3-bedroom unit, by the church-backed neighborhood group, Neighborhood Resources. This Self-Help group seems to have solved the pre-fab housing problem that large developers have not yet conquered.

In the historic Barrio of Tucson, Arizona, a small Chicano neighborhood group, only one year old, has established a factory to manufacture adobe brick. This project creates jobs for the residents of this low-income community, bricks to renovate their houses, and a salable product that will bring money into the community. It uses historic preservation to save a community, not just a pretty building.

The Riverside/Cambridgeport Community Corporation of Cambridge, Massachusetts provides a good example of neighborhood initiative in fund-raising. The group has used a $145,000 grant from the Self Help program to buy technical advice and financial support from a coalition of area banks (a coalition that the community group convened). They attracted $666,000 and then went to their state and local governments and secured almost $100,000 more. The result will be 60 rehabilitated apartments owned and controlled by the neighborhood's low-and moderate-income residents making up the corporation.

In South Portland, Maine, and Vieques, Puerto Rico, neighborhood associations are reconstructing fishing piers, to bolster the fishing economies of their communities.

Another group has moved houses, from the path of airport expansion and highway construction, and turned them into handsome homes at low-income prices and have set up a solar manufacturing plant. Another is creating a food processing center in Georgia. In West Harlem, a community group is buying city-owned apartment houses and converting them into coop ownership. In Boston, a historic brewery is under conversion, as a commercial and industrial site.

So as you can see we feel that the Neighborhood Self-Help Development program is an essential element in the continuing effort to improve the conditions of America's declining urban and rural areas, and as such helps to improve the working relationships between neighborhood groups and the communities in which they operate.

Mr. Chairman, we thank you and the subcommittee on HUD and Independent Agencies for the opportunity to testify before you today.

ENVIRONMENTAL PROTECTION AGENCY

STATEMENT OF ARNOLD SCHIFFMAN, DIRECTOR, NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Senator GARN. Next, Arnold Schiffman, director of the New Jersey Department of Environmental Protection.

Mr. SCHIFFMAN. Good morning.

I want to briefly present some testimony that will focus on two pollution abatement programs vital to the economic well-being of New Jersey. Other New Jersey representatives will be submitting written testimony on additional issues within the committee's jurisdiction.

SUPERFUND PROGRAM

First, the superfund program. This is a most important new element in the fiscal year 1982 EPA budget. Awards from superfund are to be made on a national priority basis. Recent surveys conducted by the State and Federal Government rank New Jersey first, nationally, in the

We have identified 325 sites in need of attention, and this number is not the total scope of our problem. New Jersey has created and exhausted a State spill compensation and control fund to clean up hazardous and toxic waste sites. In the first year of the program, over 4.5 million gallons of hazardous waste and over 400 million pounds of contaminated materials were removed from sites in New Jersey at a cost of about $30 million.

The depletion of our spill fund combined with the near depletion of the existing section 311k clean water funds—currently the only available cleanup assistance from the Federal Government—has reduced remedial action to a bare minimum in New Jersey. In addition, New Jersey is in court seeking a declaratory judgment that superfund does not preempt the State from taxing the petroleum and chemical industries within its borders to support our spill compensation control fund.

At this point, only the absence of a viable, continuing funding stream prevents New Jersey from correcting the public health threats presented by the improper disposal of hazardous waste.

The present administration's strategy on hazardous waste disposal includes a reliance on the States as the primary mechanism for dealing with release of hazardous or toxic substances. With this strategy as a given, we urge you to fund superfund to the level of the original budget requests of $250 million in fiscal year 1982 instead of the proposed $200 million level. This is a minimum appropriation necessary if New Jersey and its sister States are to deal adequately with the issue of hazardous and toxic waste cleanup. Let me give you a few examples to back this up.

The need for the $250 million is best exemplified by the situation in New Jersey. As mentioned earlier, there are at least 325 toxic waste sites in New Jersey that have been abandoned and are in need of some form of remedial action. Of that 325, New Jersey has 50 sites which are so serious that remedial action must begin within the next 2 or 3 fiscal years to avert a public health or safety crisis.

Of these 50 sites, we have 10 sites which are so bad that work should begin immediately, and in these 10 cases we are prepared to act virtually upon notification of available funding. Let me give you a few examples.

EXAMPLES CITED

There is a place called Burnt Fly Bog, which is a site covering over 100 acres next to the State's largest potable water aquifer. In the next few months, $325,000 will be spent to develop a cleanup engineering plan which, when implemented, will result in at least a $10 million expenditure. Without these superfund dollars, a trillion gallons of potable water could be contaminated by carcinogens like benzene, toluene and PCB's.

Another example is a place called Bridgeport Rental and Oil Services, a site which contains over 50 million gallons of organic chemical contamination similar to that at Burnt Fly Bog, the one I just mentioned.

is that people don't appreciate it when you come to them and tell them their water supply is in danger. They become very surly if you have to tell them you can't fix it. Ultimately, if we have a release of these materials, which is a gigantic lagoon, into the adjacent Delaware River, we threaten the local shellfish industry in addition to the ground water pollution that will take place.

Another example is a place called Price's landfill. The entire water supply of Atlantic City is threatened. I don't have to explain the importance of Atlantic City economically.

We have seven other sites in this immediate category. I won't go into these. They have some odd names like Lone Pine and Goose Farm. This seems to be a characteristic of hazardous waste sites.

If you just add up the most urgent sites needing fiscal year 1982 attention in New Jersey, you can see that $80 to $120 million is needed. And New Jersey is just one State. Other States have similar agendas.

CONSTRUCTION GRANTS PROGRAM

The second major element in the EPA fiscal year 1982 budget of immediate concern to New Jersey is the proposed cut in the construction grants program. This program provides matching grants to assist States and local governments in financing the planning, design, and construction of publicly owned treatment facilities. New Jersey has significantly improved the management of our construction grants program, largely with the assistance of changes in the law which delegates their responsibilities to the States.

We have, in effect, turned the program around to such an extent that New Jersey now has a backlog of 231 projects awaiting grant funds.

We are fully prepared to obligate all the presently available construction grant moneys within this fiscal year. That is contrary to our performance in past years. However, the proposed reduction of moneys in fiscal years 1980 and 1981 totals $60 million, which places the State in the unacceptable position of funding only 40 projects of the 231 presently on our priority list.

These reductions will prevent the funding of a number of needed step 3 construction projects such as the Rockaway Valley Regional Sewage Authority project. Recently litigation has been instituted on behalf of the RVRSA to secure a position on the priority list this year. Rockaway Valley presently operates an antiquated, overloaded, secondary treatment facility which discharges upstream of the Passaic Valley Waste Commission intake in Little Falls.

They wanted to secure a high position on the priority list mainly because of the cutbacks. They were within the fundable range.

This past month most of the flow was of the poorly treated sewage. The waste in the river was so strong that it prevented us from treating the river water for use as the water supply. We lost 45 million gallons a

The Senate version of the administration's proposal will result in an additional $13 million loss to the State of New Jersey. If these massive cuts are implemented, many projects in the planning and design stages for years, which are now ready to proceed to construction, will have to be eliminated.

There are other proposals I am aware of which would change this to about $3 million additionally, so I am looking at a range of $63 to $73 million in cuts for New Jersey, when we have just turned the program around and are able to go forward with the higher priority projects.

If these cuts are implemented, many of the projects in the planning and design stages—and this has been for years; I might note that is a characteristic of the construction grants program. It has its own builtin delays. They are now ready to proceed. They finally made their way through the pipeline. Again, many of the most important projects are just coming from the pipeline. I don't think New Jersey is unique. They will have to be eliminated.

NEW JERSEY'S OVERALL NEEDS

The State's overall needs, based on a 1980 needs survey conducted by EPA, is $6.4 billion or 5.4 percent of the national needs. New Jersey ranks fourth in needs behind the larger States of New York, Pennsylvania, and California. The budget reductions significantly impact the State's ability to finance these documented needs. Again I want to emphasize the most important ones are just coming through the pipeline now.

We do not have the resources to carry out these critical projects without assistance.

New Jersey residents have supported the program strongly. They voted for bonds to provide funding in the amount of $451 million for research, planning, and design. The municipalities have expended over $400 million of matching funds. In addition, we have expended $2 billion for the operation and maintenance so far.

Without continuing assistance, the objectives of the Clean Water Act cannot be fulfilled and the quality of the State's water will decline. In New Jersey, we look at largely public health issues as well as additional problems of drinking water problems and recreational uses for water.

No appropriation for fiscal year 1982 will mean no projects can be funded during that year since all of the available grant funds will be exhausted in New Jersey during fiscal year 1981. There seems to be some myth going around there are enough dollars in the pipeline to keep things moving in 1982. That is not true. I don't think New Jersey is unique in turning the program around. I want to emphasize again

Congress did a good thing in the changing of the law in 1977 to delegate the programs to the States. That is coming about now. There were some delays, naturally, but it is coming about. New Jersey has been aggressive. It is not the same as it was in the past.

If the budget proposal for fiscal year 1982 provides for a national appropriation of $2.4 billion, New Jersey could receive $85.4 million, a 25-percent reduction from the current funding level. This would come at a time when three urban area projects alone with an estimated combined cost of $900 million will be ready to go to step 3 construction. This will be in 1982 and early 1983.

I would like to emphasize a year's delay or more, such as a zero allocation would give us, would increase the final cost of these projects by at least $100 million due to inflation alone. This construction grants program has been plagued by delays and increased costs.

In the future, New Jersey anticipates obligating all Federal construction grants moneys within the first 6 months of their availability. The pact that has been carefully drafted between the taxpayer and the Government is a delicate balance of commitment and financial responsibility. I urge you to provide funds to complete ongoing projects, otherwise we will be left with a need unmet and a promise unkept.

Thank you. I would be happy to answer any questions you might have.

Senator GARN. Thank you very much, Mr. Schiffman. I appreciate your testimony. Thank you for coming today.

Mr. SCHIFFMAN. Thank you.

PREPARED STATEMENT OF SENATOR CANNON

Senator GARN. Before we recess the hearing, Senator Howard Cannon was unable to be here yesterday when we had testimony on NASA. He has asked me if I would include his statement in the record. I would ask unanimous consent that his entire statement be placed in the record.

[The statement follows:]

Statement of Senator Cannon of Nevada

Mr. Chairman:

During the Commerce Committee's markup of S. 1098, which provides the FY 82 NASA budget authorization, I undertook a commitment on behalf of my Committee colleagues to support that authorization at every step of the legislative process. That is why I am here today.

I know your time is severely limited today, as is mine. So I will not dwell on the many complexities involved in the NASA budget authorization which other witnesses will probably address. Instead I will convey as well as I can the overriding considerations which persuaded the Commerce Committee to approve a NASA budget of $6.2 billion for FY 82. Within that budget authorization the Committee specified, first by a vote of 13 to 3 to restore to aeronautical research and technology $55 million of the $603.5 million reduction which the present Administration requested in the FY 82 NASA budget, and second, to restore $45.7 million to needed portions of the space program.

We view the NASA authorization primarily as an investment in our nation's well-being with benefits now and in the future. Returns on the taxpayers' investment in NASA come back in several forms.

In a dynamic world of shifting attitudes and mores, in which the standing of our nation has suffered severely, our space achievements have provided our one renewable hold on the respect and good will of peoples all over our planet. For the young in years among our own people NASA's achievements have renewed their confidence in the nation's otherwise waning commitment to science and discovery. And to the young in heart of all ages, our space achievements have reassured them that their government, whatever its faults, can still respond to and help fulfill some of our people's highest aspirations.

But, you may say, we are faced by an economic crisis in which, for the time being, economic considerations must transcend all others. Because I understand and, indeed, share that view, let me focus briefly on that one form of NASA's return on investments, namely, massive contributions to our economy from our aviation industry.

Which of us, had we been here when NACA -- the forerunner of NASA -- was first authorized, would have imagined, or believed, if one of us had imagined, that in 1980 the nation's aviation industry would:

- o Contribute over $13 billion net to our trade balance
- o Provide 1.3 million full-time jobs distributed throughout our 50 states
- o Market about $100 billion in products and services (which at nominal earning levels would return $2-3 billion to the Federal treasury)
- o Carry 273 million passengers on its regularly scheduled airline flights in the U.S. without a passenger fatality (except in commuter class service)

The substance of that summary may not be new to any of you. But I ask you now to view its implications in the context of NASA's space program which now dominates that agency's budget. The competitive muscle of the U.S. aviation industry is the advanced technology developed through NASA. We have more reason now to believe that economic expansion into space activities will take place in the future than our predecessors had to believe in aviation's economic achievements for our time. Typical of those activities will be communications, remote land and ocean sensing and exploration by satellite, advanced materials processing for metallurgical and pharmaceutical needs, solar power development and others unsuspected today. That economic expansion may well dwarf what we have experienced in earthbound aviation. With that beacon already there to guide us, we should not deny our offspring that expectation for their future!

Mr. Chairman, it is my hope that you and your colleagues will appropriate to NASA the funds for FY 82 which the Committee on Commerce, Science, and Transportation recommended on May 6 and the Senate unanimously approved on May 21, 1981.

SUBCOMMITTEE RECESS

Senator GARN. With that, the committee will stand in recess until 1:30 this afternoon.

[Whereupon, at 11:55 a.m., the subcommittee was recessed, to reconvene at 1:30 p.m. this same day.]

(AFTERNOON SESSION, 1:40 P.M., WEDNESDAY, JUNE 3, 1981)

NONDEPARTMENTAL WITNESSES

HOUSING AND URBAN DEVELOPMENT

STATEMENT OF RICHARD K. HELMBRECHT, ASSISTANT DIRECTOR OF THE MICHIGAN HOUSING DEVELOPMENT AUTHORITY; PRESIDENT, COUNCIL OF STATE HOUSING AGENCIES

PREPARED STATEMENT

Senator HUDDLESTON [presiding]. The subcommittee will come to order. The chairman, Senator Garn, had to go to the Senate floor to participate in the debate on the housing authorization bill which is being considered this afternoon. I will continue these hearings.

Our first witness is Rick D. Burtenshaw, director of the Utah Housing Finance Agency. Is Mr. Burtenshaw here?

I think you are probably aware of the rules that have been set down by the Chairman. We are trying to limit oral testimony to 5 minutes. Of course, a longer statement can be included in the record in its entirety.

Mr. Burtenshaw, you may proceed.

Mr. HELMBRECHT. Senator Huddleston, let me clarify the record. My name is Richard K. Helmbrecht. I am substituting for Mr. Burtenshaw, who could not attend the subcommittee hearings here. I am the associate director of the Michigan Housing Development Authority and president of the Council of State Housing Agencies.

I request, if I could, that Mr. Burtenshaw's testimony would be made part of the record, which has been submitted separately.

Senator HUDDLESTON. So ordered.

[The statement follows:]

STATEMENT OF RICK D. BURTENSHAW, COUNCIL OF STATE HOUSING AGENCIES

Mr. Chairman and members of the Committee, I am Rick D. Burtenshaw, Executive Director of the Utah Housing Finance Agency and am representing the Council of State Housing Agencies. The Council currently has 47 member State Housing Finance Agencies (HFAs) as well as 150 organizations affiliated with the Council, including builders, developers, and others involved with state housing finance agencies.

Before proceeding, a brief overview of our testimony is appropriate. We will be addressing the current housing crisis in terms of the limited availability of financing resources, reductions in the Section 8 program and the Administration's tax policy as it relates to housing. Although much of what we see necessary to meet lower income housing needs must be accomplished through the tax commitees of Congress, this committee can do a great deal to ensure the production of much needed lower income housing by adopting a fair share appropriation for Section 8 housing.

Housing at Tremendous Disadvantage

Increases in construction costs in conjunction with high interest rates and a shortage of mortgage credit have made conventionally financed rental housing infeasible. Thus, there has been little incentive to produce low and moderate income housing. Today, to further compound te problem, we see a threefold attack on what little incentive has been available.

Strike one: The Mortgage Subsidy Bond Act of 1980. Last year, Congress saw fit to limit the availability of tax exempt mortgage revenue bonds to a degree which we believe went far beyond reasonable controls. In fact, not one single family bond issue has come to market under the new law since the legislation became effective. The Council of State Housing Agencies supported legislation to curb abuses, but, we believe the legislation adopted in the reconciliation process contains fatal and unintended flaws.

The legitimate public purpose served by these bonds has been demonstrated in the past. State agencies have used proceeds from such bonds to finance housing for lower income young families otherwise priced out of the market as well as for the elderly and the handicapped. Average incomes served were well below statewide median incomes. Many of the programs were also urban related and provided a needed impetus to the solution of urban problems. According to a 1979 survey, the average sales price was $33,642, the average purchaser's income was $14,399 and the average mortgage amount was $30,583 (10 percent down payment).

Strike two: The President's budget package. In the recommended budget, we see accelerated reductions in the Section 8 subsidy program, particularly for new construction and substantial rehabilitation. The budget submitted by the President contains a 20% reduction in subsidies for 1981, and a 33% reduction in 1982. 20% reduction in subsidies for 1981, and a 33% reduction in 1982. The FY82 First Budget Resolution, as approved in conference, provides 162,500 assisted housing units, a reduction of approximately 100,000 units over what was originally anticipated for FY82. We favor the President's goals of curbing inflation and lowering interest rates and are willing to take our industry's fair share of the national belt-tightening effort. However, the latest cuts unfairly single out housing. Thus, we see yet another avenue of relief for housing low and moderate families being severely curtailed.

We understand the Administration's and Congress' concern about the impact of increased federal expenditures upon inflation. State agencies are directly impacted by inflation as our bond financed programs have come to a halt due to virtually unworkable interest rates in the long-term bond market. We believe, however, that responsible low and moderate income rental and homeownership programs should continue.

Strike three: The President's tax package. Although we agree with the Administration's broad economic objectives of lowering taxes and reducing interest costs, the fact that housing is no longer a privileged competitor in the national credit market must be considered. Even if the overall economic program is successful, housing interest rates will not drop to the low levels which have been enjoyed for years and which have allowed most of our citizens to be the best housed in the world. Thus, even granting optimistic conclusions regarding interest rates, there will be additional families priced out of the housing market because of competition for capital.

The President's tax recommendations change real estate depreciation schedules, and may severely impact on the rental housing industry by placing rental housing investment in a secondary position behind investment in commercial and retail real estate. We particularly emphasize the need for greater tax incentive for low and moderate income housing. There is enough trouble attracting equity capital to low income housing with its attendant risks, without being downgraded as an investment by changes in tax law.

CSHA Recommendations to the Committee

Overall, we believe that the overly restrictive mortgage revenue bond legislation, the proposed reduction in the subsidized housing budget, and the secondary place for low and moderate income housing in the tax package, combined produce an unintended and unacceptable negative impact on housing for lower income persons. We believe this Committee can do something about the negative impact.

1. Support a fair share budget for housing.

The Reagan Administration requested 175,000 assisted housing units for FY '82. The Budget Conference Committee cut even deeper and adopted a 162,500 unit level. We feel assisted housing has been unfairly singled out and is taking more than a fair share proportion of budget reductions. We urge this Committee to support the Administration's 175,000 units level, as any cuts beyond this 33% reduction would further devastate an already troubled housing industry.

2. Support implementation of a Financing Adjustment Factor.

Granting we will have less Section 8 units in the future, the production and utilization of the units now allocated is critical. Presently, with Tandem exhausted and tax exempt financing not working due to high interest rates, it is extremely important that Congress support present HUD direction to implement a financing adjustment factor. The financing adjustment factor, (FAF), is necessary to fund the current Section 8 pipeline which, if allowed to go to closing, could reemploy thousands of workers putting them on the work roles and off the welfare roles. The FAF has proven its merits and has functioned well in the past to allow for financing in times of high interest rates. The FAF compensates for today's difficult market conditions by amending base fair market rents to accommodate today's high interest rates while maintaining adequate cost controls. We ask you to implement the FAF as soon as possible. Our estimate is that 50 to 60,000 units could quickly go to construction and based on NAHB analysis, this would directly provide 50,000 man years of work.

3. Support state housing finance agency units.

We urge the Committee to include directions instructing HUD to make a share of Section 8 funds available for utilization by state agencies. State housing finance agencies have served as major producers of low and moderate income housing and have proven themselves to be responsive to local conditions by meeting housing needs through efficiently managed programs. They create jobs and, in many cases, are a principle source of support to the construction industry in the state and communities they serve. Over the past two decades, HFA's have been responsible for the financing of 450,000 assisted housing units across the country. As financial institutions, they must be assured of their allocation in advance in order to effectively and efficiently plan for staffing, overhead and production.

4. Encourage OMB to waive end-of-year spending limits.

We urge the committee to instruct OMB to waive the prohibition against utilization of more than 30 percent of the Section 8 funds in the last quarter of the fiscal year. Although we recognize that this provision is statutory, end-of-the-year spending limits would cause unwarranted hardships right now. Processing on a substantial number of projects has been delayed due to uncertainties associated with the rescission process. In fact, State Agencies were notifed of funding levels only last week. Suspension of this provision would enable financing and thus new construction.

5. We urge the Committee to amend the President's tax package to:

(a) Amend last year's mortgage revenue bond act to make it workable by providing for technical amendments; by defining the 1% yield limitation so issues can pay for themselves; and by providing for increased use of rental housing by eliminating or reducing the Section 8, 20 year equivalency requirement. At a minimum, the requirement should be reduced to 15 years to meet the Section 8 mod rehab requirement.

(b) Amend the President's tax policy to achieve parity for rental housing with office and commercial space, and to recognize the need for tax advantages for low and moderate income housing by providing for 12 year accelerated depreciation for such housing. It is our understanding that the Administration is sympathetic and may be considering some form of relief.

GAO Report

Additionally, I would like to comment on two other Section 8 related activities.

The GAO has issued two reports in the last year on Section 8. The one report entitled Evaluation of Financing Alternatives for Section 8 Housing labeled state agency housing as the most expensive of the financing options. We have completed and submitted to the Committee, our response to this report. After factoring for errors in the report and after making more reasonable assumptions on tax exempt financing, we find that state agency financing is less expensive than the Tandem program although still somewhat more expensive than public housing. However, if we then factor for the cost resulting from time lag in the production of public housing, we find that state financing produces more units for the same dollars. We pay somewhat more for the involvement of the private sector in the Section 8 program, whereas in the public housing program, we pay somewhat less up front less up front because of public management responsibility. This public management, however, has not always worked well, and we are of the strong opinion that a slightly higher cost to bring in private ownership is appropriate. I'm sure we will be discussing this report with your staff and with the Committee independent of these hearings, but I state for the record that our position on the GAO report of last September is that the report draws misleading conclusions from inaccurate and outdated data.

More recently, GAO issued a new report on Section 8 entitled How to House More People at Lower Cost Under the Section 8 New Construction Program. We believe this report was a more sensible review of the program. Although we don't agree with all of the conclusions, and will be suggesting additional perspectives ourselves, we were encouraged that, based upon the fee appraisers findings, HUD and the state agencies' procedures for controlling development cost appear to be adequate. We've been saying this for some time. We may differ with GAO as to what constitutes modest housing and take issue with some of the cost benefit implications of housing the elderly in efficiency units, but most of our concerns center on the report recommendation to increase HUD management of the program. We have found that HUD management generally slows up the process and delay is expensive.

Conclusion

In summary, state housing finance agencies have proven to be effective tools in meeting the enormous housing needs of this country. They are not a panacea, nor do they replace conventional financing or federal programs. They provide for financing of housing where private efforts alone cannot do the job. To remain viable institutions we need your help.

By ensuring that assisted housing is not overpenalized in the appropriation process, and instructing HUD to make a share of Section 8 funds available for utilization by state agencies, and supporting the financing adjustment factor, the Committee will enable state agencies to continue to meet the needs of low and moderate income families across the country.

Thank you for this opportunity to submit written testimony.

ATTACHMENTS

1) Notes on Housing Need
2) Attrition in Section 8 Program
3) Admin. Tax Proposal and Impact on Housing Industry
4) What is a "FAF"

Attachment 1

NOTES ON HOUSING NEED

- High rates of household formation among the baby boom cohort and a steadily growing elderly population will contribute to a large demand for additional housing units.
- To meet demand, rental unit production must average between 500,000 to 600,000 units, for the next five years; of that total the subsidized housing sector must contribute 250,000 to 300,000 units per year to house those who can not afford adequate housing at market rates.
- According to the U.S. General Accounting Office, the median income of renter households is nearly half that of owner households and nearly half of all renters are paying more than 25% of gross income to rent.
- The National Low Income Housing Coalition states that in 1977 (most current available data) there were 4.6 million renters who paid more than 50% of their earnings for shelter and some 4 million who were forced to reside in physically inadequate units.
- According to the U.S. General Accounting Office, the approximately 2.5 million units of Section 8 and public housing provided to date will still leave over 12 million eligible lower income households without assistance.
- Rental housing production dropped from 541,000 new units in 1979 to 397,000 units for 1980 of which 50% of the 1980 units were government subsidized.
- According to a Joint Economic Committee report....sophisticated investors view the multi-family structure, except under circumstances and unique locations, as a relatively riskful non-inflation proof investment.
- Both rental and ownership costs will continue to rise through the eighties. New mortgage financing techniques and double wage earner housholds will keep home ownership within reach of many middle income households. However, most moderate and all low income households will be priced out of the market. Rents in many areas already have risen to the limits of tenants' capacity to pay; rising operating and maintenance costs will spur the depletion of the existing rental stock and discourage conventional new construction.

ATTACHMENT 2

ATTRITION IN SECTION 8 PROGRAM

Since 1976 the Section 8 program has been reduced from 516,721 units to 175,000. The following table illustrates the attrition of publicly assisted housing units over the past 5 years.

Year	Section 8 Units Reserved
1976	516,721
1977	388,413
1978	326,026
1979	325,075
1980	205,892
*1981	210,000
*1982	175,000

*Estimated

ATTACHMENT 3

ADMINISTRATION'S TAX PROPOSAL AND IMPACT ON HOUSING INDUSTRY

The Administration is proposing an 18 year straight line depreciation schedule for residential rental property other than low income and a fifteen year straight line rate for low income housing and all other real estate (other than owner occupied property). All other real estate includes hotels, shopping centers and office buildings.

Although the residential schedule may be somewhat more favorable than present law, this program will have a negative impact for low income housing because it establishes depreciation schedules favoring non-residential structures over rental housing structures. Funds therefore will shift away from housing for the poor and elderly. Further exacerbating this situation is the fact that Section 189 which allows low and moderate income housing favorable treatment on construction interest, expires in 1981.

The program provides many disincentives for investing in housing, namely:

- investors will continue to look for investments which produce significant cash flow and under this proposal they will invest primarily in office buildings, hotels and shopping malls.
- Low income housing is restricted as to the rate of cash return to investors and Section 8 housing is prohibited from resale for at least 20 years. There are no such restrictions on hotels, shopping malls or office buildings.
- Low income housing is a riskier investment due to both the amount of government red tape and regulation and the potential for rent control.
- According to a Joint Economic Committee report, sophisticated investors view the multi-family structure as a relatively risky non-inflation proof investment.
- According to the National Association of Realtors evaluation of the President's proposal, "a building made out of the same materials and having the same economic life could be at least fifteen percent less costly for the commercial and industrial user than for individuals providing rental housing." This means an opportunity for greater profit.
- The NAR further states, "the President's program during the next four years would likely cause 125,000 fewer homes to be built."
- By inadequately stimulating housing, the proposal will cause higher housing prices and stimulate inflation
- Should tax shelter value decrease in relation to other investments, developers would earn little or no profit, eliminating the incentive to produce low and moderate income housing.

We recommend amending the Proposal to:

1. Establish a fifteen year depreciation schedule for all residential real estate other than low income.

2. Establish a twelve year accelerated depreciation schedule for low and moderate income housing.

3. To allow for the rapid write-off of construction interest, and the continuation of favorable recapture rules, for low and moderate income housing. "The limitations currently imposed upon non-corporate taxpayers with respect to deductions for real estate construction period interest and taxes should be repealed (I.R.C.Section 189). These limitations, originally enacted in 1976, but providing for an extensive phase-in period, are exerting an increasingly depressing effect upon new real estate construction, and will, if not repealed, exert an even greater depressing effect on future construction activity. Since these limitations do not apply to corporate taxpayers, or to any taxpayers engaged in activities other than real estate construction, they are not only unwise and unnecessary, but also discriminatory."

4. Extend indefinitely the provision of the Internal Revenue Code (Section 167 (k)) which provides for sixty-month amortization of expenditures to rehabilitate low and moderate income housing which is scheduled to expire on December 31, 1983. In addition, inflation must be taken into account. The minimum and maximum amounts allowed per dwelling unit should be increased from $3,000 to $5,000 and $20,000 to $30,000, respectively.

5. Amend Section 195 (d) to ensure that the beginning of business in connection with real estate construction or rehab occurs on the date which construction actually begins rather than when occupancy occurs. This position has, in fact, been upheld in court.

6. Amend Section 57(a) to equalize the tax preference arising under Section 167 (k) and Section 191 for new construction. This revision would serve to eliminate one of the Code's present biases against rehabilitation and historic preservation.

Most of these provisions have been incorporated into companion bills introduced recently in the House by Congressman Patterson and Blanchard (HR 2053) and in the Senate by Senator Williams and Cranston (S. 444). We support the legislation for providing the necessary construction and rehab incentives for real estate. We hope the Committee will carefully consider and support this legislation.

7. Amend the Crude Oil Windfall Profits Tax Act of 1980 to remove the prohibition against a property owner benefiting from both a tax exempt loan and an energy tax credit. Tax exempt loan programs make it possible for low and moderate income families to borrow at reasonable rates, and there has been no demonstrated abuse from the "double dip" of the loan and the credit.

WHAT IS A "FAF"

FAF STANDS FOR FINANCING ADJUSTMENT FACTOR, AND ITS BEEN USED IN THE PAST TO DEAL WITH THE IMPACT OF UNUSUALLY HIGH INTEREST RATES ON THE PRODUCTION OF FEDERALLY SUBSIDIZED SECTION 8 HOUSING DEVELOPMENTS.

BASICALLY THE FAF IS A METHOD OF COMPENSATING FOR THE COST OF HIGHER INTEREST RATES BY INCREASING THE "FAIR MARKET RENT"(FMR). THE "FAIR MARKET RENT" IN THE SECTION 8 PROGRAM OPERATES TO CONTROL COSTS BY INSURING THAT THE SECTION 8 RENTS, BEFORE SUBSIDY, DO NOT EXCEDE "COMPARABLE" RENTS FOR NON SUBSIDZIED PROJECTS.

AS "FAIR MARKET RENTS" DO NOT EXIST IN NATURE ANYMORE THAN DOES A FAF, THE "FAIR MARKET RENTS" ARE ESTABLISHED IN EACH MARKET AREA BY HUD STAFF REVIEW OF NON SUBSIDIZED PROJECTS USING A SYSTEM OF ADJUSTMENT FOR AGE, SIZE, AMENITIES, ETC. BASICALLY THE FAF ALLOWS AN ADJUSTMENT FOR INTEREST COSTS. HIGHER INTEREST COST FOR HOUSING ARE A FACT, JUST AS A HIGHER PRICE FOR LUMBER IS A FACT GIVEN INFLATION.

PROJECTS NOW IN OPERATION AND USED AS COMPARABLES ARE COMPARED ON THE BASIS OF TOTAL RENT LEVEL, IMPLICIT IN A RENT IS THE MONEY NEEDED TO PAY OFF THE MORTGAGE. AS THESE COMPARABLES HAVE A LOWER MORTGAGE INTEREST RATE, BECAUSE OF YESTERYEARS LOWER INTEREST RATES, IT IS REASONABLE TO INCREASE TODAYS FMR'S TO REFLECT THE INTEREST RATE DIFFERENTIAL.

HOWEVER, TODAY'S INTEREST RATES ARE VERY VOLATILE, AND RANGE UP AND DOWN OVER SHORT TIME PERIODS. TO AVOID TOO LOW AN ADJUSTMENT, OR TO HIGH AN ADJUSTMENT WHICH COULD RESULT IN A WINDFALL BENEFIT TO THE PROJECT, THE FAF CHANGE IS NOT DONE IN ADVANCE, BUT ONLY AS NECESSARY WHEN A PROJECT IS READY TO START.

INITIALLY, PROJECT FEASIBILITY PROJECTIONS ARE BASED ON A STANDARD RATE (PRESENTLY BEING CONSIDERED IS THE TANDEM PROGRAM RATE OF 8.39%) AND ALL LIMITATIONS AS TO RESTRICTIONS ON THE SECRETARIAL DISCRETION TO INCREASE RENTS INCREASES HOLD TRUE.

LATER, IF THE BASE RATE IS CHANGED, THE RESTRICTIONS ON THE SECRETARIES DISCRETION TO EXCEDE THE NEW BASE RATE ARE MAINTAINED. PRESENT RESTRICTIONS ARE THAT THE SECRETARY CAN NOT EXCEDE 110% OF THE FMR'S, EXCEPT HE CAN GO TO 120% FOR 20% OF THE FUNDS.

DO WE NEED A "FAF"

DO WE NEED A FAF? WE BELIEVE SO. GIVEN TODAY'S ~~HIGH INTEREST~~ RATES, AND PROJECTIONS FOR THE REMAINING FISCAL YEAR, NO ADDITIONAL SECTION 8 PROJECTS WILL BE FINANCED WITHOUT THE FAF. TANDEM IS EXHAUSTED.

TAX EXEMPT FINANCING IS ALL THAT IS LEFT, OTHER THAN DIRECT FEDERAL LOANS. TAX EXEMPT FINANCING NORMALLY ACCOUNTS FOR ABOUT 1/2 OF THE SECTION 8 STARTS.

DIRECT LOANS ARE ALSO IN TROUBLE BECAUSE OF HIGH COST OF FEDERAL MONEY AND IT IS POSSIBLE THAT THEY MAY BE INCLUDED AS ELIGIBLE FOR FAF, ALTHOUGH LAST YEAR THE PROGRAM WAS ONLY FOR TAX EXEMPT FINANCING.

AGAIN, WE REPEAT; 1/2 AND MAYBE 2/3's OF ALL 1981 SECTION 8 STARTS WILL FAIL TO BE ACHEIVED WITHOUT THE FAF. THIS IS ESTIMATED AT THE LOWER END TO BE 50,000 TO 60,000 UNITS.

WHAT IS THE COST OF A "FAF"

FINALLY, WHAT IS THE COST OF A FAF UNIT? A FAF UNIT DOES NOT REQUIRE AN ADDITIONAL CONGRESSIONAL ALLOCATION. WHAT WOULD HAPPEN IS THAT THE NUMBER OF UNITS TO BE PRODUCED FROM OLD ALLOCATIONS WOULD BE REDUCED. THIS IS CALLED CANNABLIZING. THE FAF ALSO DOES NO DAMAGE TO THE PRESIDENT'S BUDGET OR TO THE CONGRESSIONAL BUDGET NOW BEING DISCUSSED.

PRESENT ESTIMATES, HOWEVER, INDICATE THAT AT AN AVERAGE COST OF A 10% RENT ADJUSTMENT, THAT NEXT YEARS INFLATION WILL STILL RESULT IN HIGHER COSTS IF WE WAIT. FRANKLY, HOWEVER, IF WE WAIT WE WILL LOSE MOMENTUM AND LOSE PROJECTS.

ALSO, PROVIDING STARTS NOW WILL GENERATE 50,000 MAN YEARS OF EMPLOYMENT THIS YEAR. GIVEN THE SAD SHAPE OF THE HOUSING INDUSTRY, THIS RESULTS IN GETTING WORKERS OFF THE WELFARE ROLLS AND ON THE EMPLOYMENT ROLLS.

FURTHER, THE TREMENDOUS INVESTMENT BY DEVELOPERS AND HOUSING AGENCIES IN THESE PROJECTS WOULD NOT GO TO WASTE.

A "FAF" MAKES SENSE NOW

ARGUMENTS AGAINST FAF ARE THAT IT IS SIMPLY TO EXPENSIVE, OR THE MONEY COULD BE USED BETTER LATTER.

WE DISAGREE: THE BEAUTY OF THE "AS NEEDED" FAF SYSTEM IS THAT IT KEEPS UNNECESSARY COSTS OUT AND CONTINUES SUCH CONGRESSIONAL RESTRICTIONS AS THE PREVIOUSLY MENTIONED RESTRICTION ON SECRETARIAL DISCRETION WHILE RECOGNIZING THE REALITY OF TODAY'S HIGH INTEREST COSTS. AS TO OTHER REAL COSTS, INFLATION AND THE FAVORABLE IMPACT ON TAXES COLLECTED FROM THE INDUSTRY COMBINE TO HAVE IT MAKE SENSE TO DO IT NOW. REEMPLOYMENT MEANS THAT THERE IS NO BETTER WAY TO USE RECAPTURED FUNDS THEN TO START CONSTRUCTION NOW.

STATEMENT HIGHLIGHTED

Mr. HELMBRECHT. Thank you. Mr. Chairman. Low-income and moderate-income housing production is in trouble. We believe that last year's Subsidy Bond Act, this year's proposed reduction in section 8 subsidy, and contemplated tax changes all combine to substantially cripple the financing of institutions to meet low- and moderate-income family needs.

We support the intent of the President's tax and budget proposals to bring down interest rates so that additional housing may be constructed.

Even if rates were to fall, however, we foresee a continued problem in that housing is now competing without special privilege in the national money market. Interest rates will reflect that competition. We see a continued need to make special provisions for housing those of low and moderate income who are priced out of the product marketplace. Much of what we see necessary to meet lower income housing needs will have to be accomplished through the tax committees of Congress; however, this committee can do a great deal to insure the production of much needed low-income housing.

RECOMMENDATIONS

We submit for your consideration the following recommendations: No. 1, support a fair-share budget for housing. President Reagan's administration requested 175,000 assisted units for fiscal year 1982. The first budget resolution provides a 162,500-unit level. We feel assisted housing has been unfairly singled out and is taking more than a fair-share portion of the budget reductions. We urge this committee to support the administration's 175 units as any cuts beyond this 33-percent reduction would further devastate an already troubled housing industry.

Two, implementation of a financing adjustment regulation. Granting we will have less section 8 units in the future, the production and utilization of the units now allocated is critical. Presently, with Tandem exhausted and tax-exempt financing not working due to high interest rates, it is extremely important that Congress implement a financing adjustment regulation. The financing adjustment regulation, FAR, is necessary to fund the current section 8 pipeline which, if allowed to go to closing, could reemploy thousands of workers, putting them on the work rolls and off the welfare rolls.

The FAR has improved its merits and has functioned well in the past to allow financing in times of high interest rates. The FAR compensates for today's difficult market conditions by loosening the interest rates to enable financing while maintaining adequate cost controls. We ask you to implement the FAR as soon as possible. Our estimate is that 50,000 to 60,000 units could quickly go to construction. Based on the National Association of Home Builders' analysis, this would provide for more than 550,000 jobs.

Three, encourage OMB to waive end-of-year spending limits. We urge the committee to instruct OMB to waive the prohibition against utilization of more than 30 percent of the section 8 funds in the last quarter of the fiscal year.

Although we recognize this provision is statutory, end-of-the-year spending limits would cause unwarranted hardships right now. Processing on a substantial number of projects has been delayed due to uncertainties associated with the rescission process.

In fact, State agencies were notified of funding levels only last week for this present current fiscal year. Suspension of this provision would enable financing and new construction for us housing finance agencies.

Over the past decade, these agencies have provided more than 450,000 units of assisted housing.

Mr. Chairman, we appreciate the opportunity to appear before your committee here today. Within the present budget restrictions, there is much that can be done to assist the housing industry. We hope that the testimony will assist you in reaching that goal. Thank you.

Senator HUDDLESTON. Thank you very much. We appreciate your testimony. Would you restate your name so that we can be certain the record is correct?

Mr. HELMBRECHT. Richard K. Helmbrect; H-e-l-m-b-r-e-c-h-t.

Senator HUDDLESTON. Thank you.

STATEMENT OF TIM FOSTER, CHAIRMAN OF THE YAKIMA TRIBE'S INDIAN HOUSING AUTHORITY IN WASHINGTON STATE

ACCOMPANIED BY GEORGE WATERS, LEGISLATIVE REPRESENTATIVE, KARL A. FUNKE & ASSOCIATES, INC.

BRIEF SUMMARY

Senator HUDDLESTON. The next witness is Mr. Tim Foster. And Mr. George Waters, is that correct?

Mr. Foster, if you will identify your associates for the record and proceed.

Mr. FOSTER. Yes. Mr. Chairman, and distinguished members of this committee, my name is Tim Foster, and I am the chairman of the Yakima Tribe's Indian Housing Authority. I am submitting my testimony for the record. What I am about to read is a brief summary of this testimony.

Senator HUDDLESTON. Fine.

Mr. FOSTER. My reservation is located in southcentral Washington State. If I might, I am accompanied today by Mr. George Waters, our tribe's legislative representative.

I appreciate the opportunity to present this testimony. I have left my family and ranch and will travel nearly 6,000 miles to testify. I am here not as an elected tribal official, housing authority executive director, or in any way am I dependent upon the Indian housing program for my livelihood.

I am here because I fear a grave injustice is in the making and believe if given the opportunity for a better understanding of the Indian housing program, you will join me in its support.

I am somewhat familiar with the program, having been present when it was proposed in committee hearings and a guest of the White House when it was signed into law by President Ford.

However, more importantly, I have implemented this program at home, and I know it works. I am testifying before this subcommittee on what is, in effect, the largest cut in the proposed HUD budget for fiscal year 1982. I hope that I can convince you of the merits of the case I am pleading.

ILLOGICAL ECONOMICS

Before I share with you the necessary data and statistics and information, I would like to comment on the illogical economic approach which has been used as justification for the proposed abolishment of the Indian program at HUD. Being a conservative myself, and belonging to an entirely conservative family, I find it difficult to believe that the administration has proposed economic measures which will be very detrimental to our local economy.

When new home construction is at an all-time low due to high interest rates, and when the building trades are enduring hardships and unemployment, the Federal Government is proposing to eliminate a program that aids the construction business, both Indian and non-Indian; provides truly meaningful employment and training and supplements the economy in rural areas where poverty is ever-present; and, in turn, proposes economic measures which will not likely have beneficial effects for the Indian community.

A grave injustice will occur if the Indian housing program is abandoned on the premise that it is a necessary action to aid the economy by balancing the budget. In fact, eliminating this program will only mean more of a handicap for Indian families in their attempts to secure adequate housing for their families and will lead to an increase in the problems of our depressed local economy.

It is important for this committee to fully understand the hard reality of what this program provides versus its overall costs.

The benefits from this program are not ones which we have to wait a few years to observe but rather they are immediate, tangible, and will have a short-term immediate effect as well as long-term positive effects.

EFFECTS OF ADMINISTRATION ACTION CITED

This committee should be aware of the effects of eliminating the Indian housing program on Indian as well as non-Indian employment on and around reservations, as well as the effect on the Indian and non-Indian owned construction firms. At Yakima, via our HUD construction contracts, the equivalent in man-hours of 60 full-time, year-round people are both gainfully employed and, in many instances, learning a vocation which will make them contributing members of society.

We have three Indian-owned construction companies that enter into many joint ventures with local non-Indian firms.

We also have a tribally run maintenance company which digs the wells and septic tanks for new housing units. Through the BIA housing improvement program—HIP—we employ the equivalent of 10 people full-time year-round.

The elimination of thousands of PSE jobs on Indian reservations through the proposed CETA cutbacks to titles II–D and VI will, in itself, have a devastating effect on the already high unemployment rates on Indian reservations. Taking away the jobs and job training gained through HUD construction shall add even more to this serious problem.

The data justifying the need for Indian housing is fairly incredible The data I am about to read to you comes from well-documented sources. The numbers are so high that they are, indeed, almost numbing. Please do not be numbed or lulled into not thinking or reacting in an appropriate fashion.

I am aware that the phrase "truly needy" has been used with such frequency before various committees in this body that it has lost much of its meaning. Nonetheless, I ask that the phrase be considered vis-a-vis the national information on Indian housing.

DATA JUSTIFYING REQUEST

Whereas 12 percent of all Americans live in substandard housing, 62.4 percent of all Indians live in substandard housing.

Whereas 1.9 percent of all Americans live in overcrowded housing, 27.6 percent of all Indians live in overcrowded housing.

More than 10 out of every 1,000 Indian infants between the ages of 1 and 11 months die after they arrive in their families' homes from the hospital, a rate more than double that of non-Indian infants.

Forty-seven percent of Indian homes have no indoor bathrooms, seven times the national average.

Twenty-nine percent have no running water, 15 times the national average.

Senator Stevens and the late Senator Dewey Bartlett, in jointly offering a floor amendment on August 7, 1978, to earmark appropriations for Indian housing in the fiscal year 1979 budget, repeatedly quoted from and paraphrased the GAO report on Indian housing by indicating that Indian and Native Alaskan housing was underfunded, that Indian housing at HUD had not received the proper emphasis, and that Indian housing is a disaster.

There have been over one dozen studies on Indian housing, many initiated by Congress, and all have agreed that Indian housing needs continued and strengthened support from the Federal Government.

When former Secretary of HEW Joseph Califano visited the Navajo Reservation in April of 1979, he publicly expressed amazement at seeing so many houses without electricity and basic water and sewage systems.

If the above data and observations do not place Indians in the truly needy category as a people who need to be protected by a safety net, we cannot possibly imagine to what group of people those terms were meant to apply. Yet the administration has proposed to completely eliminate the Indian housing program at HUD and completely eliminate the water and sanitation program at HUD and completely eliminate the water and sanitation program for Indian housing at the Indian Health Service in theDepartment of Health and Human Services.

COST OF HOUSING UNITS

In my written testimony which will be a part of the hearing record, I have addressed at length OMB's accusations that Indian housing is excessively expensive. I shall not repeat now the data used to refute those charges. I shall simply tell you that on my reservation, we just completed 20 additional family type units at the average development cost of $54,000 per unit. We have also recently put in 24 units of clustered housing for our elderly at an average development cost of $31,400. After holding hearings on this issue, the Senate Indian Affairs Committee has recently concluded, and I quote, "The the cost of building Indian housing units is not significantly higher than the cost of building non-Indian housing units."

The Housing Assistance Council did a lengthy analysis of the HUD data which led OMB to view Indian housing costs as excessive and found considerable fault with the data.

The other justification used by HUD and OMB in ending this program is the contention that there are thousands of units in the so-called Indian housing pipeline and that even if Congress does not appropriate money in the 1982 budget, that we will still be building units for the next 4 years.

We have also addressed this significant misconception in our testimony for the record, and I hope that the members of this committee will find the time to read what we have said because, quite simply, these so-called pipeline units are in great part an illusion. If Congress does not appropriate money for Indian housing, there will be no Indian housing.

We have come a long way in the Indian housing business. We have only recently worked many of the bugs out of the system. Please allow us to continue. Appropriations specifically allocated for at least 6,000 units of Indian housing are a necessary, vital, and cost-effective expenditure for the Federal Government to make in fiscal year 1982.

If a member of this committee questions the worth or need of this program I personally invite that individual of this committee to return home to Yakima with me. I think I can provide an example that the Indian housing program does provide employment, does provide an opportunity for training; does benefit the Indian and non-Indian communities; does benefit the economy of southcentral Washington State; certainly provides a needed product; and is both workable and viable. However, more importantly, I would like to introduce you to the people who live in these homes, the elderly, the young married couples, the women, children, and all the people who appreciate and need this program. I am certain they would convince you.

If the need weren't there, I wouldn't be here. I am here because I believe this committee and I share a responsibility. I have the responsibility of informing you of the need for this program, and you have the responsibility of assuring yourselves that you are completely informed before a decision is made as to whether or not you will support Indian housing.

Mr. Chairman, this concludes my statement. We would be pleased to answer any questions any member of this committee may have.

Senator HUDDLESTON. Thank you, Mr. Foster.

Does Mr. Waters have any additional data?

ADDITIONAL DATA SUBMITTED

Mr. WATERS. Senator, the only thing I want to add is that we have got some additional data that we would like to submit to the committee. It is very lengthy, so it needn't be for the record; it is for your files. It includes the GAO report we mentioned in our testimony, as well as a committee report from the Indian Affairs Committee on Indian Housing and some testimony.

I would also like to give to you, right now, and the staff, some pictures of Indian housing that we will need back at the end of the day, just for your personal viewing.

Senator HUDDLESTON. Very good.

Thank you very much, gentlemen. I appreciate your testimony.

[The statement follows:]

STATEMENT OF TIM FOSTER, CHAIRMAN, YAKIMA TRIBE INDIAN HOUSING AUTHORITY

MR. CHAIRMAN, and distinguished members of the Committee, my name is Tim Foster, and I am the Chairman of the Yakima Tribe's Indian Housing Authority (IHA). My reservation is located in south central Washington State. I am accompanied today by Mr. George Waters, our tribe's legislative representative.

All told, I will travel close to 6,000 miles across this country to present my testimony. I have thought long and hard about my presentation before you and despite the fact that I have many words written, I am almost speechless for the feelings of frustration are those with which I most associate. I appreciate that this Committee is giving me the opportunity to discuss with you the status of federal support for Indian housing and I hope the committee will take the appropriate action necessary so that all Americans can live in at least a decent shelter.

I am aware that the phrase "truly needy" has probably been used with such frequency before various committees in this body that it has lost much of its meaning. Nonetheless, I must ask that the phrase be considered vis-a-vis- the national data on Indian housing.

--- Whereas 12 per cent of all Americans live in substandard housing 62.4 per cent of all Indians live in substandard housing.

--- Whereas 1.9 per cent of all Americans live in overcrowded housing, 27.6 per cent of all Indians live in overcrowded housing.

--- More than ten out of every 1,000 Indian infants between the ages of one and eleven months die after they arrive in their families' home from the hospital--a rate more than double that of non-Indian infants.

--- 47 per cent of Indian homes have no indoor bathrooms (seven times the nation's average).

--- 29 per cent have no running water (15 times the nation's average).

--- Senator Stevens and the late Senator Dewey Bartlett in jointly offering a floor amendment of August 7, 1978, to earmark appropriations for Indian housing in the F.Y. 79 Budget, repeatedly quoted from and paraphrased the GAO report on Indian housing by indicating that Indian and native Alaskan housing was "underfunded," that Indian housing at HUD had "Not received the proper emphasis," and that "Indian housing is a disaster ." (We are submitting the debate on the Stevens/Bartlett amendment as an appendix to our testimony.)

--- There have been over one dozen studies on Indian housing, many initiated by Congress, and all have agreed that Indian housing needs continued and strengthened support from the federal government.

--- When former Secretary of HEW Joseph Califano visited the Navajo reservation in April of 1979, he publically expressed amazement at seeing so many houses without electricity and basic water and sewage systems.[1]

If the above data and observations do not place Indians in the "truly needy" catagory as a people who need to be protected by a "safety net" we can not possibly imagine to what group of people those terms were meant to apply. Yet the Administration has proposed to completely eliminate the Indian housing program at HUD, completely eliminate the water and sanitation program for Indian housing at the Indian Health Service (Department of Health and Human Services) and reduce the Housing Improvement Program (HIP) at the Bureau of Indian Affairs and consolidate HIP into a tribal block grant.

When President Reagan was candidate Reagan, his Indian platform was very progressive and clearly indicated to the Indian people that this man was committeed to helping us. We remembered that President Nixon was good to the Indian people and many Indians voted Republican. When we heard there were to be cut-backs in federal programs, we hoped that some programs to help Indians would be protected or that at worst, we would take our fair share of the cuts. It is impossible for us to believe that this Administration is proposing to cut Indian housing by 100 per cent. We feel that President Reagan does not know about this OMB proposal for if he did, he would suggest a more moderate and compassionate position.

It is important for this committee to realize that there is no alternative for dealing with Indian housing other than federal assistance. Indian land is held in trust status for the tribes or individual Indians by the United States and is generally restricted against alienation. Trust lands can not be mortgaged absent specific federal statutory authority. Therefore, commercial credit for housing construction on Indian trust lands is in many cases unavailable since many Indian owners have no security for the loan other than the land itself and no bank is going to loan money on a mortgage they could not foreclose (the land) on.

In 1976, the Indian Health Service (DHHS), the Bureau of Indian Affairs (DOI), and HUD signed a tri-agency agreement concerning the provisions of facilities and services for federal Indian housing programs. In this agreement, IHS is responsible for most water and sewer hookups to new homes, HUD is responsible for the construction of the units and the BIA is responsible for road construction. Both the IHS and BIA are responsible for approving housing sites and feasibility studies. The Indian Housing Authorities have been left in the middle of this trio to try to see that through some miracle the units are actually built and occupied. The tri-agency agreement to many IHA's has been what icebergs were to the Titanic. We at Yakima have had more success in dealing with these agencies than many other IHA's have. This is in part due to the fact that we are a large tribe with a political power base and the on-reservation resources to help supplement our IHS with money, staff and training. Largeness and political sophistication should not be prerequisites to get housing constructed on Indian reservations. The small reservations of this country are often the places where the most atrocious housing situations are found. There are members of this subcommittee from the states of Utah, Nevada and New Mexico where there are a preponderance of very small tribes who have had great difficulty in dealing with a federal bureaucracy which has been less then receptive to helping them untangle the maze of regulations and prototype costs necessary to get housing constructed. (See Stevens/Bartlett appendix).

The rationale given by OMB for completely eliminating the HUD Indian housing program in FY 82 are the "excessive costs" of Indian housing and the "number of units in the pipeline". The significance of these statements has led to recent hearings before the Senate Select Committee on Indian Affairs and the House Interior Committee, both of which exercise jurisdiction over Indian issues in their respective bodies of Congress. Furthermore, the Housing Assistance Council (HAC) has done an in-depth study into the allegations by HUD that Indian housing is excessively costly and found serious problems with the data used by HUD and OMB in making those assertions.

Relative to the excessive costs argument:

--- The Senate Indian Affairs Committee, in its recent report on the effects on Indian tribes of the FY '82 Budget, found, "that the cost of building Indian housing units is not significantly higher than the cost of building non-Indian housing units." 2

--- The House Interior Committee Chairman has written that, "Under close scrutiny, none of the reasons offered (by OMB and HUD) to terminate the program proved to be true....." and "that the Administration utterly failed to support their proposal (to eliminate Indian housing)" and that HUD and OMB..... disclosed not only a lack of understanding.... of the nature of Indian housing, but a perhaps unintentional misrepresentation of data and statistics in this area." 3

--- The Congressional Research Service has found that on an average annual per unit basis, Indian housing is comparable in cost to Section 8 housing sponsored by private developers. 4

In testimony before Congress, a leading IHS director from Oklahoma stated:

--- In any evaluation of cost effectiveness of Indian housing, it is important to recognize that the Indian mutual help projects do not receive any operating subsidy funds. Simply put, these projects cost the Federal government far less than regular public housing projects. In many cases, the operating subsidy paid over the life of the bonds of regular public housing projects have exceeded the initial capital investment.

In contrast, the mutual help projects require an initial capital investment only and the people themselves retire a portion of that debt. 5

The National American Indian Housing Council, headquartered in Carson City, Nevada, an association of 162 Indian authorities nationwide, showed an average per unit development cost of $62,472 for FY 79 and 80. This figure is 13 per cent, or $10,000 less per unit than the OMB stated cost which was termed "excessive." Further study by NAIHC showed a total development cost which is $43,000 less than OMB's figures. 6

The Senate Indian Affairs Committee also stated, " that the higher cost of Indian housing reflects the following factors : (1) Alaskan Native housing is included (in OMB's average Indian unit cost) with its higher construction costs; (2) remote rural location of most reservations require importing of non-resident trained labor which must be paid higher transportation and living expenses; and (3) lack of infrastructure (on-site roads, water and sewer systems, and provision of electricity) constitutes an exceptionally large portion of site development cost." 7

On my reservation, we have just completed a 20 unit scattered site division (family units) at the average development cost of $54,000 per unit. We have also put in 24 units of clustered housing for our elderly at the average development cost of $31,400. This housing was build on time and without any cost overrun.

What of the many thousands of units in the so called "pipeline?" HUD and OMB have intimated that they are not really ending the Indian housing program, but simply allowing the "glut" of units "backlogged" in the pipeline to be built prior to allocating money for more construction. At first glance, this assertion leads to the vision of those of us in Indian country being as busy as beavers (for four to five years according to OMB) building houses looking forward to the day we could rejoice in having caught up with the backlog. Those who put forth this argument must have prayed that it be accepted on face value and not examined at all. Fortunately, various congressional committees and housing experts have examined it very carefully and found its logic somewhat less than sound.

It bears noting that OMB itself was the first entity to inadvertantly find fault in the pipeline count. In its March 10 report on the Budget, OMB stated that there were 22,000 units in the Indian housing pipeline. Thirteen days later in testimony before Senate Indian Affairs Committee, the estimate was changed to 15,000 units.

The Select Committee has accurately pointed out "...that any housing program that is funded over the long term will, of necessity, have to have a 'pipeline' of units awaiting construction." [8] This is the nature of the construction industry. The NAIHC states, "it must be remembered that all of Public Housing is a 'pipeline' system. This system was developed in order to keep the construction of new units underway and annual funding is necessary to keep the procedure going." [9]

The most startling aspect of the HUD/OMB logic is that which calls for the elimination of the IHS water and sewer program in FY 82. If OMB plans for the HUD pipeline to be kicking out units in FY 82 and 83, why would they delete funding from the IHS budget ($73 million in FY 82) for the dollars necessary to get those units hooked up to water and sewer lines? This is the one point which came out the most clearly in the congressional hearings to date. OMB did not understand the direct inter-relationship between HUD and IHS (and BIA) in preparing the FY 82 budget nor did they understand it in recommending against the supplemental request of IHS for $23 million in FY 81 to supply water and sewer hookups to 2,840 units in the preconstruction pipeline, units which have been approved by HUD but which IHS does not have funding for.

The Senate Appropriations Subcommittee on the Interior in Report No. 97-67, the Supplemental Appropriations and Rescissions Bill, 1981, states: "The Committee cannot believe it is the Administration's intent to build Indian homes without water and sewer facilities. The Committee urges the Administration to review this program and submit a budget estimate for fiscal year 1982 which will also provide funds to service the homes now under construction as well as those to be built next year." While we agree with the Committee that a budget estimate is necessary for the FY 82 Budget we are also convinced that supplemental appropriations are necessary for FY 81.

Furthermore, HUD and OMB have viewed the pipeline counts nationally but not realized that different regions have varying pipeline counts. Last week, some IHAs were being told by their regional HUD administrators to cease in the approving of new annual contributions contracts (acc) in anticipation of congressional action to reduce the HUD allocation in Fy 81 and 82. If there were so many units in the pipeline such orders would not be necessary. Witnesses before the Interior Committee's hearing on Indian housing greatly disputed the Administration's position on the number and significance of Indian units in the pipeline indicating that in some regions there are no units in the pipeline.

As was pointed out above, once OMB decided to cut the HUD money in FY 81 and 82, IHS followed suit. In determining to cut the total number of congressionally mandated units for Indian housing in the FY 81 Budget to 2,400 (from 6,000 units in FY 80) the House Appropriations Subcommittee on HUD stated "... that there are currently more funds available for the construction of Indian housing units than are available for the necessary sewer and water connections to support such units." [10] We are prompted to ask what comes first, the chicken or the egg? IHS uses the cutback in HUD funds to justify cutting their budget and the House HUD Subcommittee points its finger at the lack of IHS money to even further cut the HUD budget. This despite the fact that the House has agreed to the IHS request for a $23 million supplemental so that 2,840 of HUD's units in the 81 pipeline will have water and sewer facilities. The further rationale used by the House Appropriations Subcommittee on HUD was that of the savings realized by the Indian cutback. "$300,000,000 will be applied to the public housing modernization in order to restore that program to the original 1981 level of $2 billion." [11] Quite simply, we find this unequitable and unfair and are surprised to see congressional committees condone and utilize numerical sleight of hand shell games. How can it possibly be fair to have the worst housed group of people in the U.S. receive the largest budget cut so that another program not be cut at all?

This committee should also be aware of the effects of eliminating the Indian Housing program on Indian as well as non-Indian employment on and around reservations as well as the effect on Indian and non-Indian owned construction firms. At Yakima via our HUD construction contracts, the equivalent of 60 full-time year-round people are both gainfully employed and in many instances learning a vocation which will make them contributing members of society. We have three Indian owned construction companies who enter into many joint ventures with local non-Indian firms. We also have a tribally run maintenance company which digs the wells and septic tanks for new housing units. Through the BIA Housing Improvement Program (HIP) we employ the equivalent of 10 people full-time year-round. The elimination of thousands of PSE jobs on Indian reservations through the proposed CETA cut-backs to Titles II-D and VI will in itself have a devastating effect on the already high unemployment rates on Indian reservations. Taking away the jobs and job training gained through HUD construction shall add even more to this serious problem.

It took most Indian reservations five or six years to recuperate from the Nixon housing moritorium of 1973 to gear up to the point where they had the ability to get units built. What OMB is proposing will have the same effect. Many of the IHAs, again particularly the smaller ones, will simply be forced to close down thereby eliminating the only vehicle for housing construction on Indian reservations.

We urge this Committee not to turn its back on the Indian people. Our housing needs are great and we have made advances in recent years toward being able to construct decent, cost-effective housing.

We recommend:

1. That in the conference between the Senate and House Appropriations Committees on the FY 81 Supplementals and Recissions that the Senate accede to the House in granting IHS a $23 million supplemental.*

2. That in this same conference the House accede to the Senate which has recommended 4,000 units of Indian housing be funded in 81 or preferably reinstate the Administrations $161 million recission and allow for adequate funding in new contract authority for 6,000 units, the figure which has been in recent years budgets, (or go along with the administrations recommendation of 5,000 units).*

3. That funding in FY 82 Budget for HUD include contract authority for 6,000 units and that funding of $73 million be included in the IHS Budget in FY 82 for water and sewer hookup for newly authorized as well as pipelined houses.

4. That this Committee appoint a public panel to review all past studies and then make recommendations to the Congress to implement those studies toward the goal of streamlining the federal housing program for Indians and consolidating those programs into one agency. There have been enough studies. The time has come to act.

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* We realize that the Appropriations Subcommittee on HUD does not have jurisdiction over IHS but we are urging the members of this Subcommittee to work with the Interior Subcommittee members to this end.

FOOTNOTES

1. The data in the above paragraphs come from any one of the following sources:
    1) A March 31, 1981 GAO Report to Congress on Indian Housing (CED-78-63)
    2) The 1979 Census
    3) Indian Housing, a Report of Senate Select Committee on Indian Affairs, 1979

2. Report of the Senate Select Committee on Indian Affairs, Analysis of the Budget Pertaining to Indian Affairs for FY 1982, dated June 1981

3. Correspondence by Chairman Udall to various Committee Chairmen involved in housing and to HUD Secretary Pierce, April 6 and 7, 1981.

4. Schussheim, Morton J. Public Housing and Section 8: Some Comparisons, Congressional Research Service, Washington, D.C. April 1978.

5. Mr. Ron Froman, Director of the Housing Authority for Creek Tribe and Treasurer of the National American Indian Housing Council in testimony before the House Subcommittee on Housing and Community Development, April 13, 1981.

6. See Appendices

7. Ibid, footnote No. 2

8. Ibid, No. 2

9. Testimony presented by the Housing Assistance Council before the House Interior Committee , April 3, 1981.

10. See House Report No. 97-29, Pg. 155

11. Ibid, No. 10

APPENDIX NO. 1

* SUBSTANDARD HOUSING COMPARISON

U.S. Average	12.9%
Indian (reservation)	62.4%

* QUALITY OF HOUSING COMPARISON (1970)

GROUP	W/O BATH	W/O PIPED WATER	1.5/OR MORE PEOPLE PER ROOM
U.S. Average	7.5%	2.5%	2.1%
Blacks	17.6%	7.9%	6.9%
Hispanics	6.8%	1.4%	9.5%
Indian (reservation)	47.7%	29.1%	27.6%

* MEDIAN INCOME COMPARISON (1970)

U.S. Average	$ 9,590
Blacks	6,067
Hispanics	7,348
Indian (reservation)	4,821

* 1970 Census

Appendix No. 2

AVERAGE ESTIMATED TOTAL DEVELOPMENT COST
HUD INDIAN HOUSING PROGRAM
FY 1979 & FY 1980 ALLOCATION

REGION	NO. UNITS	NO. PROJECTS	ESTIMATED TOTAL DEVELOPMENT COST	AVERAGE PER UNIT
I	90	3	3,902,388	43,360
II	145	4	7,687,206	53,015
IV	200	1	8,237,950	41,190
V	0	0	0	0
V (adjusted) (subtotal) Including I,II,IV	435	8	19,827,544	45,581
VI	1,542	47	76,997,411	49,933
VII	-	-	-	-
VIII	1,184	59	76,320,368	64,460
IX	2,043	50	143,374,397	70,178
X Seattle	271	13	16,982,172	62,665
Anchorage	386	26	32,647,463	84,579
TOTALS	5,861	203	366,149,355	62,472
Navajo	673	19	67,321,264	77,115

DEPARTMENT OF HOUSING & URBAN DEVELOPMENT

INDIAN HOUSING PROGRAM

FY 1981 ALLOCATION

REGION	CONTRACT AUTHORITY	ALLOCATION LOAN AUTHORITY	NO. UNITS	NO. UNDER PROGRAM RESERVATION
V*	5,570,000	67,157,000	1,100	-0-
VI	3,256,000	39,257,000	750	55 ready
VIII	6,455,000	77,827,000	1,050	-0- (approximately 150 units in process)
IX	12,039,000	145,153,000	2,050	50
X Seattle	2,418,400	30,823,000	1,050	-0-
Anchorage	4,820,600	88,334,000*	925-950	-0-

NOTE: Regional offices have been instructed to commit no more than 50% of the above allocations.

*Including I,II,IV

APPENDIX NO. 3

REGION BY REGION PIPELINE*

REGION	PROGRAM RESERVATION	ANNUAL CONTRIBUTIONS CONTRACT	UNDER CONSTRUCTION	TOTAL
V (Includes I, II, IV)	1,255	64	619	1,938
VI	1,888	40	1,251	3,179
VIII	1,466	261	1,039	2,766
IX	3,422	1,718	1,269	6,409
X	342	117	311	770
ALASKA	870	89	331	1,290
TOTALS	9,243	2,289	4,820	16,352

FOOTNOTE: Approximately 150 units in Region VIII shown under the Program Reservation total are to be purged because they have unresolvable problems. 1,195 of 1,888 units shown under Program Reservation in Region VI should be under ACC by September 30, 1981 because they are funded from 1980 monies. Anticipating a construction time span of 9 to 18 months, depending upon the region, all units shown under ACC and/or Construction will be out of the pipeline by September 1982.

*Does not include FY 1981 allocations.

PROBLEM AND NEED ANALYSIS FOR A COMPREHENSIVE INDIAN HOUSING PROGRAM

I. Introduction

The Indian Housing Program has been proposed for elimination. Several reasons for its elimination have been cited by critics of the program. These include:

- Its cost. Construction and financing costs can reach $175,000 per unit.

- The extensive existing pipeline. Counting the FY '81 allocation, some 22,000 units are currently in process.

- Lack of rent collections. Indian housing authorities lose substantial income from uncollected housing payments.

- Interagency Agreement. The involvement of three federal agencies - BIA, HUD and IHS - adds substantially both to the program's cost and to its complexity.

- The complexity of the program. It is estimated that it will take five years to complete the 22,000 units that have been allocated because of excessive regulation and overly complex program standards and requirements.

- Housing Authority Capacity, Program Abuse and Mis-Management. In addition to the rent collection problem, there have been several celebrated cases of gross mis-management and fraud by Indian Housing Authorities. Also, IHA's are perceived as being less than competent in their program management practices.

- HUD Organization. HUD's management of the program has been criticized for being slow, unresponsive, understaffed and disorganized.

- Its insensitivity to the cultural traditions of many Tribes. Each of these criticisms of the Indian Housing Program is analyzed briefly in the following discussion along with several other program policies and operational issues. Taken together, these problems suggest the need for major revisions in the Indian Housing program but not necessarily eliminating it altogether. For there remains a substantial un-met need for housing assistance on Indian Reservations and in Alaska Native Villages. Current estimates place the need at about 69,000 units and the real need is probably as large as 100,000 to 125,000 units.

Following the brief problem and need analyses presented below are two alternative proposals for a new Indian housing program concept that address both the criticisms that have been leveled at the existing program and the need of Tribes for a housing program that is responsive to their special legal and cultural circumstances.

II. Problem Analysis

A. Costs.

Construction. The Indian Housing Program has been criticized because of its high construction and financing costs compared to other housing programs. This is a valid criticism, at least in part.

The Indian Housing Program produces units with a development cost that is higher on the average than other forms of housing, both subsidized and non-subsidized. For FY '80 Indian Housing units reaching construction start averaged $65,415 in total development costs, as compared to an average of $43,956 for all Low Income Public Housing units started. (See Table I) The Section 8 Program, as financed by GNMA Tandem, produced an even lower average cost, $41,650 per unit. Indian Housing also was more costly than non-subsidized single-family dwellings in rural areas. In 1980, the average new FmHA-financed single-family dwelling sold for $40,200 while the average newly constructed single-family home located outside an SMSA sold for $54,800.

Because Public Housing units are generally of a smaller size than Indian Housing, it is desirable to compare costs per room. Again, Indian Housing appears more costly, $12,529 per room for Indian Housing, versus $11,517 per room for Public Housing.

However, these average construction costs include Alaska Native Villages and Navajo where extraordinary construction costs prevail. In Alaska, the average per unit cost is estimated by the Native American Indian Housing Council to be about $84,600. These excessive costs appear to be related to the extremely remote locations of most Alaskan villages; the resulting cost of transportation and access; the short construction season and the imposition of the very expensive MPS requirements in locales when the provision of standard sewer treatment systems, for example, is not only expensive but unworkable.

At Navajo, NAIHC estimates that the average construction cost is about $77,000 per unit. These extreme costs appear to be associated with the remote locations of many Navajo villages and the imposition by the Tribe of wage rates that exceed, by far, Davis-Bacon wage rates that are already considered excessive by many housing industry experts.

When Alaska and Navajo are excluded from the calculation of the average per unit construction cost of Indian Housing nationally, NAIHC estimates that the average per unit construction cost is about $58,000 and the total per unit cost is about $132,000 when financing costs are included. Table I presents the average per unit construction cost including Alaska and Navajo.

However, when the total construction and financing costs of various programs are compared (including Navajo and Alaska), it appears that the government gets as much or more for its money for Indian Housing than it does for most other types of assisted housing when unit size and financing costs are considered.

Table I

Average Per Unit Cost, 1980

Indian Housing[1]	$65,415
LIPH[1]	$43,956
Section 8[2]	$41,650
FmHA[3]	$40,200
Rural Single Family[4]	$54,800

[1] Average development cost including construction, land, and land preparation, for units reaching construction start in FY '80 includes the costs of Alaskan and Navajo projects.

[2] Average development cost of GNMA Tandem-financed units in FY '80, assuming a 90% mortgage; includes land, land preparation, and construction; SOURCE: GNMA, U.S. Dept. of HUD.

[3] Average sales price of a new FmHA-financed single family home, 1980; SOURCE: Bureau of the Census, U. S. Dept. of Commerce.

[4] Average sales price of a new single family home, 1980, in areas outside of SMSA's; SOURCE: Bureau of the Census, U. S. Dept. of Commerce.

Table 2

Comparative Costs, 1980

	Indian Housing	LIPH	Section 8	FmHA	Single Family Rural
Total Development cost per unit[1]	$ 65,415	$ 43,956	$ 41,650	$40,200	$ 54,800
Total Financing Cost[2]	$ 68,568	$ 57,316	$ 56,875	-0-	-0-
Tandem Subsidy[3]	-0-	-0-	$ 70,891	-0-	-0-
Income Foregone, U.S. Treasury[4]	$ 34,284	$ 28,658	Missing[6]	$37,670	$ 50,432[7]
Total Costs[5]	$168,267	$129,930	$169,416	$37,670	$ 50,432
Unit Size	5.22 Rooms	3.82 Rooms	Missing	Missing	1,410 Sq. Ft.

[1] See Table 1 for development cost data and sources.

[2] Total financing cost to the government; for Indian Housing assume 25-year mortgage term at 6.62% interest; for LIPH assume 3-year mortgage term at 6.62% interest; for Section 8 assume GNMA Tandem 7.5% interest rate and 30-year term; for FmHA and single-family rurual there are no direct interest expenses to the government.

[3] GNMA Tandem financing provides subsidy covering the difference between 7.5% interest rate and 14.5% market rate.

[4] For Indian Housing and LIPH assume tax exempt land purchaser is in 50% tax bracket; for FmHA and rural single family assume homeowner is in 30% tax bracket.

[5] Total costs to the government in constant dollars, including development, financing, and income foregone for Indian Housing and LIPH and assumes no income. For Section 8 included development, financing, and Tandem subsidy and assumes no income; for FmHA and rural single family includes only income foregone to the Treasury.

[6] Income foregone to the Treasury for Section 8 housing is not presented here, but includes tax income lost through the tax provisions for depreciation tax shelters less the capital gains tax.

[7] Assumes 90% mortgage.

Assisted Housine Pipeline and Starts
May 1, 1981

	LIPH	Section 8 New Rehab.	Indian Housing
Starts[1]	67,200	533,219	12,300
Pipeline Backlog[2]	70,784	52,545	5,939
Starts % Total	48.7%	91.0%	67.5%

[1] Units reserved 1/1/76 through 1/1/80 that have reached construction starts.

[2] Units reserved 1/1/76 through 1/1/80 still present in pipeline as of 5/7/81.

B. Pipeline.

The Indian Housing Program has also been proposed for elimination; at least temporarily, because they are purported to be an excessive number of 22,000 units in the pipeline that will take HUD five years to complete.

The Indian Housing Program has, however, proportionally fewer units delayed in the pre-construction pipeline than the Low Income Public Housing Program. (See Table 2)

Since the program was re-instituted in 1976, the Indian Housing program has produced over 12,000 units in construction starts, while during the same time period, LIPH has produced over 67,000 units. However, there are 70,784 LIPH units in the pipeline backlog nationally (units that were reserved over 16 months ago that have not reached construction start) as compared to only 5,939 units reserved from 1976 through 1979, 67.5% have reached construction start, as compared to only 48.7% of LIPH reservations.

These statistics indicated that the estimates of the Indian Housing pipeline may have been exaggerated. Some analysts have suggested there are 22,000 units in the Indian Housing pipeline. Other data indicates, however, that there are fewer than 6,000 units in the pipeline backlog (units that were reserved more than 16 months ago). The balance (16,000 units) apparently includes only those units that were reserved less than 16 months ago and could not be realistically expected to move from reservation to construction start in such a short time.

C. Rent or Housing Payment Collections.

The Indian Housing Program has been criticized for having excessive accounts receivable because too many Indian families refuse to make housing payments.

It is true Indian housing authorities and Tribes have severe rent collection problems, however, collecting rent from poor people is generally a problem and it does not appear that Indian Tribes, proportionally, have greater problems than most city authorities.

Indian Tribes and housing authorities, moreover, have significantly more difficult cultural and legal problems in terms of rent collections than any city. Given these problems, it is understandable that delinquent rents are commonplace on many reservations. Indeed, it is surprising that the problems are not worse than they are.

Most Tribes and Native Alaskan Villages have had cash economies for less than a century. Moreover, housing traditionally, was self-built and basic shelter. It was not perceived as an economic commodity. There is, therefore, no long term tradition of paying for housing among most Native Americans. This tradition has been reinforced by federal policies that have encouraged expectations among Native Americans for total housing assistance that persists today. Until the HUD Indian housing program started in 1961, most federally assisted housing on Reservations was provided free to Indian families.

There is also little incentive for Indian families to pay for their HUD-assisted houses. As explained below, eviction for non-payment of rent is difficult for Tribes and the families know it. As important, however,is the fact that there is no opportunity for Indian families living in mutual help (home-ownership) units to take economic advantage of the equity they have built up in their homes. "Pride" of ownership is all they get. Indian mutual-help families cannot, as a practical matter, borrow against equity or appreciation nor can they sell their units if they wish. Most families with limited disposable income, who found themselves in this situation, would almost certainly choose to "invest" in a more negotiable asset. There are more incentives for families to pay off their pick-up trucks than their houses.

Until Indian Reservations were created, there was almost no tradition of individual land-holding among Native Americans, although Tribal territorial imperatives were very strong. Today, Indian families live on cramped Reservations without the freedom of movement that they historically enjoyed. They have developed a fierce identity with their assignments or allotment of individual parcels of land. Most federally assisted housing is built on families' assignments or allotments. Evicting families for non-payment of rent from houses built on their own land is not only politically difficult for Tribes. It is culturally almost impossible because evicting a family from its house also evicts them from their land. Also, other Indian families are likely to be reluctant to occupy an evicted family's home for fear of almost certain reprisal, if not for reasons of cultural sensitivity. This increases the reluctance of Tribes to evict families for non-payment of rent on HUD-assisted units. With the chronic shortage of housing on reservations, evicted families have nowhere to go and more financially responsible families will not use and pay for a house on someone else's assignment.

Federal policy regarding housing payments has not completely addressed these Indian cultural and legal issues. On the one hand, HUD requires housing payments and eviction for non-payment --- standard western economic assumptions. On the other hand, even if cultural tradition allowed it, HUD has not made provision for the private buying and selling of HUD-assisted "Mutual Help" units--also standard western economic assumptions.

It seems clear that any new federal policy for Indian housing should address this contradiction.

D. Interagency Agreement

The current Indian housing program requires IHS to fund certain of the water and sewer costs and BIA certain of the road construction costs for HUD-assisted housing projects. The way each agency budgets and contracts for its share of a project is different and occurs at a different time in the development cycle. In addition to the confusion and uncertainty that this interagency funding agreement causes, it can and has caused expensive delays in construction and occupancy. The magnitude of the cost of these delays is unknown.

It seems clear, however, that requiring three federal agencies to fund a single housing project under three different sets of regulations according to three budgeting processes at three different times causes unnecessary hardship on Indian Housing Authorities and Tribes.

Any new or revised federal program should address this issue.

E. Program Complexity

In addition to the complexity inherent in the local administration of the Interagency Agreement, the Indian housing program is clearly over-regulated. Almost every decision is made twice, once by the Housing Authority and once by the federal government. Often, a decision is made three or four times. Moreover, some very important decisions are made solely by the IHA and less important, operating decisions are essentially made by the BIA, HUD or IHS.

The purpose of any federal regulation is to ensure that the desired objective is met and that the federal investment is protected. Current regulations seek to ensure the provision of high-quality housing units at the lowest cost by requiring federal intervention at virtually every step in the process. For example, HUD reviews and approves plans and specifications for cost and design standards; bid documents for procedural adequacy; authorizes IHA's to go out to bid and reviews contract awards for technical compliance with regulations, etc.

HUD finds itself helpless, however, to prevent an IHA from succumbing to the blandishments of less than competent or scrupulous architects who induce often unsophisticated Indian housing commissioners into accepting "canned" plans that the federal government has already paid for at least once and blatantly irrelevant to Tribal cultural requirements.

In short, the federal government appears to intervene where it should not have to in order to insure the construction of high quality, low cost housing and cannot intervene where it must in order to insure achieving the same objective. The result, too often, is that Indian families get high cost houses of poor quality that the government is often obliged to repair at substantial cost. It seems apparent that changing the focus of federal intervention might reduce the time it takes to complete a project and, therefore, its costs without jeopardizing the federal interest. It should also be noted that the number of decisions that the government is directly involved in and, therefore, legally responsible for, also increases the federal government's liability for suit. The cost implications are clear.

Any new or revised Indian housing program should address these issues.

F. HUD Organization

HUD has often been criticized for providing poor housing services to Indian Tribes. Excessive delays in processing housing applications, overly complex and unresponsive policies, uncoordinated service delivery, etc., have all been criticized.

The creation of several new Offices of Indian Programs to administer all of HUD's Indian programs is believed by many to be the appropriate first step toward improving service and reducing processing time. Creation of a HUD Assistant Secretary of Indian Programs was proposed several years ago as a way of making housing policy more responsive to the special legal and cultural situations of Tribes. The proposal was rejected for cost considerations and it seems clear that cost concerns might again cause rejection of this idea. Increasing the size and organizational visibility of the Washington Indian housing staff might be an alternative to a fully staffed Assistant Secretary's office.

G. Housing Authority Capacity and Program Abuse and Mismanagement

1. Abuse

The celebrated cases of abuse and gross mismanagement of the Indian Housing program funds have been a few isolated instances that are more than matched in number and severity by city housing scandals.

2. Housing Authority Capacity - Board of Commissioners

The problem of lack of administrative capacity among Indian housing authorities, however, remains epidemic. Boards of Commissioners are almost never made up of housing professionals as originally envisioned. This kind of expertise simply does not exist on most Reservations and most Tribes are legitimately reluctant to put "outsiders" on policy-making bodies. As a result housing commissioners are most often untrained Tribal members who work and have little time to carry out their responsibilities. As a result, even getting quorums for meetings is frequently impossible.

Moreover, Boards of Commissioners are not directly accountable either to Tribal members or to Tribal Councils. Nor is there much incentive for them to be accountable. Once appointed, commissioners can only be removed for cause before their term expires. Yet they are responsible for overseeing the management of millions of dollars in federal funds for one of the most important of all programs for Tribal development. City housing authority boards are responsible for building and managing a relatively small part of a city's housing stock. Indian housing authorities, on the other hand, are responsible for building and managing virtually all of a Tribe's housing stock. Many Indian commissioners are not unaware of the unaccountable power they wield. In fact, many Indian housing authority boards are far more powerful than their Tribal Councils in terms of dollars controlled.

Accountability is also a problem for IHA's that serve more than one Tribe. Often Tribes are too small to be able to support their own housing authorities. (The rule of thumb is that fifty units in management is the smallest number of units that will generate enough money to pay for needed permanent staff.) Small Tribes have often formed joint housing authorities to overcome this problem. Joint authorities, however, are even less accountable than individual Tribal authorities and often control even more money. Moreover, their existence creates a situation in which member Tribes compete for unit allocations. Add this level of competition to the competing demands of families on each Reservation and ugly inter- and intra-Tribal confrontations can and do develop.

Any new Indian housing policy should re-examine the role of or necessity for an independent housing authority board of commissioners. Such boards are vestiges of 1930 municipal assumptions and may be irrelevant for Indian Tribes in the 1980's.

3. Housing Authority Capacity - Role of Tribal Councils

Under the current Indian housing program there also is no incentive for positive Tribal Council involvement in the housing program. Housing authority chairmen and staff often complain that they do not receive enough money or political support from Tribal governments; that Tribal Councils often just create or join housing authorities and then forget them.

If the role of Tribal Councils in the housing program is examined, however, it is essentially negative. The Tribal ordinance creates an IHA and provides for eviction for non-payment of rent. Many eviction actions, however, end up before Tribal Councils because families are also being evicted from their assignments. Tribal Councils, therefore, are often required to take the punitive action of taking away houses from votes without ever having had the political benefit of providing them in the first place.

Some eviction actions go before Tribal courts. In these cases, Tribal councils are somewhat insulated politically. However, Tribal courts, responsible for dispensing justice are perceived as part of Tribal government whereas housing authorities, dispensing housing authorities, dispensing housing units, often are not.

In the development of any new housing program, creating a more positive and, therefore, responsible role for Tribal government in the provision of housing should be examined.

4. Housing Authority Capacity - Staff

It is often difficult for IHA's to find and keep qualified staff for several reasons.

-- Many Tribes and IHA's prefer to hire Tribal members for all positions. Often the people hired are inexperienced and lack the qualifications for implementating a highly complex program like the Indian housing program. Mismanagement if not failure, often result.

-- IHA's that have had problems in hiring Tribal members, then hire qualified non-Indians who find living on remote Reservations and not being able to be a real part of the community intolerable. They often leave before Tribal members have been adequately trained.

-- The hiring and firing practices of many IHA Boards' are often whimsical and sometimes entirely irresponsible and politically inspired as could be expected from unsophisticated people controlling millions of dollars through an unaccountable organization. It must be noted that this is probably true for many city as well as Indian housing authorities.

The result is very high staff turn-over rates that contribute to discontinuous operations; costly delays; constant retraining and frequently, the mismanagement associated with ignorance and confusion.

Finally, it must be recognized that the skills and background required to oversee a complex construction project are different from those requied for on-going property management. Often, IHA staff of limited experience to start with are required to perform both functions.

This issue of both IHA and tribal capacity should be addressed in any new Indian housing policy or program.

H. The insensitivity of the Indian Housing Program to Tribal cultural traditions

The lack of sensitivity to Tribal culture and traditions of the existing Indian Housing program may be its most serious flaw. The foregoing analysis suggests that the program is not really as expensive as its critics contend; that the Indian pipeline compares very favorable to the city LIPH program; that IHA rent collection problems are not as severe as city's etc. In short, the current program is at least as effective as other federal housing programs. The one thing the Indian housing program is not, however, is responsive and sensitive to the cultural traditions of Indian people. For example, it took one Tribe in Minnesota years to come up with an acceptable housing design that incorporated their tribal tradition of having a large common living, dining, sleeping and cooking area and still meet HUD requirements for separate bedrooms for adults, and children of different sexes. Often houses are sited to meet federal cost concerns without taking into account that certain Tribes have religious traditions for siting houses to face the east. As described below, the MPS, imposed middle class American structural financial and cultural values on Indian Tribes that have very different values. In short, the existing Indian housing program imposes a "state of middle-class blessedness" on Indian families who find this state not only alien by often find it repugnant as well.

Only a few Tribes have successfully resisted the government's relentless insistence on design and amenity conformity. Most have acquiesed because housing is so important to viable reservation living.

The richness and diversity of this Country's American Indian heritage has recently begun to be recognized as an important national attribute. The Indian Child Welfare Act and the Statutory protection of Indian religious expression are only two of many examples of this growing recognition. The Indian Housing Program is the most important remaining example of a federal program that fails to recognize and address the special cultural needs of Indian Tribes. Any new or revised Indian housing program should examine this issue.

I. Other Issues to be Addressed

In addisiton to the general problems described above, there are a series of technical problems associated with Indian houisng construction and management that must be addressed in any program designed to improve the program. The are listed and briefly described below.

1. Minimum Property Construction and Amenity Standards.

   The current set of Minimum Property Standards is a well-intentioned effort to protect the federal government's interest in building decent, safe and sanitary housing that is comfortable and affordable. They are mostly very detailed precision standards, not general performance standards. They are also very complex and rigid.

   The standards address construction quality issues such as the load-bearing characteristics of walls in order to insure the structural integrity of a house. They also address amenity issues such as the number and sex of the children who can sleep in the same bedroom. In both areas they are insensitive to the cultural preferences and housing traditions of Tribes. They impose western European structural, financial and cultural assumptions on Indian societies without reference to Tribal cultural prerogatives. The result often is Indian families living in subdivisions of typical "American" three-bedroom ranch-style houses complete with carports and all electric kitchens when those families might have preferred common sleeping quarters and wood burning stoves.

   The standards have also resulted in inflated construction costs and Indian families living in what amounts to luxury housing whether they wanted to or could afford the utility bills or not.

   No substantial reduction in the cost of Indian housing is possible unless the Minimum Property Standards are reduced and made less complex. No improvement in the cultural responsiveness of the Indian housing program is possible unless the standards are made more flexible.

2. Cost of Architecture and Engineering
   The complexity of the MPS has also increased the A & E cost of Indian housing because these costs are calculated as a percentage of construction costs. If the MPS requirements were reduced, A & E firms could not use the technical complexity of the MPS to justify their charges. It should also be noted that the complexity of the MPS has created a mystique that too many A & E firms have used to camouflage poor design and excessive construction costs and to confuse IHA commissioners.

3. Construction Deficiencies and Contract Disputes

   Whether related to poor design or shoddy workmanship, construction deficiencies and contract disputes are a serious problem in Indian housing projects despite the efforts of tribal and federal staff to prevent them. This problem must be considered in developing revised policy.

4. **Utility Costs**

   Rising utility costs for both power and heat, together with rising unemployment on Indian Reservations and

the remote locations of many Reservations, suggest the urgent need to revise federal assumptions and standards regarding utility services.

Many Indian families are living in houses that were designed without consideration for their energy efficiency. The result of rising energy costs is that families cannot afford the power to cook in their new all-electric kitchens or to pay for the propane to heat their homes which were built without fireplaces because of construction cost considerations. Any new program or policy must address the issue of energy efficiency or the government will not be providing comfortable and affordable housing.

5. Wage Rate Requirement

Force account construction is allowed only under rare and prescribed circumstances in the Indian housing program. Virtually all construction work is done by non-Indian contractors who are required to pay Davis-Bacon wages. HUD is required to insure that workers are paid the appropriate wages and enforce the restitution of wages for underpaid workers by contractors.

Often the wage restitution is far less than the cost to the government of enforcing compliance. Moreover, the wage rates established by the Department of Labor for Tribe's projects are those for the nearest large city where the cost of living is much higher than on Reservations. Also, it is estimated that the cumbersome administrative requirements for HUD, IHA's and contractors can add as much as 15% - 20% to total project costs.

Finally, the effective insistance by government regulation that all construction work be done by professional contractors, ignores the potential for the "self-help" capability of many Indian families. It may be possible, for example, for force account crews or individual families to frame and enclose their houses if provided expert supervision. This could limit the government's responsibilities to the provision of materials, supervision and technical interior work such as plumbing and wiring. This approach, however, could add substantially to the time involved in building a house.

Nonetheless, the issues of Davis-Bacon wages rates, force account and self-help should be re-examined.

6. Administrative Costs

There are currently two major areas of IHA administrative responsibility: housing construction and housing management. As mentioned earlier, these two functions require different skills and experience.

Currently, the IHA's costs associated with the ongoing management of Indian housing are paid for by small, typically $25.00 per month, payments by individual families. Often, this is all a family pays and the government picks up 100% of all construction and financing costs. Even at this, the housing payments barely cover IHA administrative costs. Development costs associated with the planning, architecture, engineering, etc., of individual housing projects are paid for by HUD preliminary loans that are later included in the Annual Contributions Contract.

Housing development administrative costs are often sporadic; they are funded on a project-by-project basis. Housing, or property management costs are on-going IHA responsibilities. There is a radical difference in the appropriate way to fund such disparate activities.

Any new Indian housing program should examine the possibility of identifying different funding conduits for such different activities.

7. Relationship of Housing Payments to Construction and Financing Costs

Currently, there is no obvious relationship between what families pay for housing and what the housing costs to build and finance. Many families, even those living in mutual help units, pay only the on-going IHA management fee. This may contribute both to excessive federal costs and to the perception among Indian families that there is no economic value in contributing more to the cost of their homes.

The logical and realistic possibility of requiring Indian families to contribute toward both the on-going management costs and a share of the construction/financing costs should be explored in the development of any new Indian Housing program.

III. General Needs Analysis

Census data reveal a need for approximately 60,000 units of housing on Indian Reservations to replace existing substandard units. Units are considered substandard if they lack indoor plumbing or are seriously deteriorated structurally. This figure is probably accurate with regard to existing substandard units. It is probably seriously understated when the very high birth rate and decreasing mortality rate on the largest Reservations are considered. Nor does the 60,000 unit need figure include the Indian families living near Reservations who were effectively forced to move away from "home" as a result either of federal termination and relocation policies or for economic reasons. Many of these near Reservation families have expressed a desire to move back to the Reservation if something resembling adequate housing were available.

The future of most Indian Tribes is lodged in the growing numbers of college education young people who wish to return to their Reservations to help their own people. In this and other respects many of the larger Reservations resemble lesser developed countries. However, many of the educated young people are discouraged from returning to their Reservations because adequate housing is not available. Of greater concerns is the problem of keeping the productive young people who have returned.

On many Reservations, the younger, educated people work for Tribal government and have incomes too high to be eligible for HUD-assisted housing. They live cramped in trailer-homes while the federal government is building spacious single-family houses for less productive Tribal members.

These families could, in a non-Reservation context, probably afford to pay for their own houses with a modest subsidy. On-Reservation, there are few, if any, opportunities or incentives for them to remain. This group represents an important housing need on Reservations that is not addressed under the current Indian Housing program.

Finally, it must be acknowledged that the bulk of the residual Indian housing needs is on about forty, very large, very poor Reservations. The needs of smaller Tribes can often be met with one housing project after which the federal government has no on-going obligation except to insure that the houses are adequately maintained and occupied by the intended beneficiaries.

IV. Comprehensive Housing Management Program Design

A. Introduction

Regardless of the construction method used under the proposed stratified development approach or the Block Grant approach the federal government would still have a substantial investment in Indian housing. The need to protect this investment creates an on-going federal and tribal responsibility for property management and maintenance. Similarly, twenty years of experience in the program demonstrates that very low income families simply do not have the money to support either a housing payment or the costs of maintenance, utility bills, etc. For these families, annual subsidies are required both to protect the federal investment and the insure that these homes remain habitable and comfortable. In addition, many Indian families incomes fluctuate widely. It is not unusual for many families to qualify for a mutual help house when employment opportunities are available. However, with declining employment, many families find that they can no longer afford their housing payments or their on-going maintenance and utility bills as required under the mutual help program.

Currently, the federal investment is protected by mutual help families' housing payments to IHA's; operating subsidies to IHA's for maintenance and utility costs of low-rent units; and occasional allocations of modernization funds for structural and design deficiencies of both types of projects. Operating subsidies are essentially annual "categorical entitlement," management grants to IHA's that are requisitioned quarterly against needs estimated at the beginning of the fiscal year, but there is no existing mechanism to assist mutual help participants pay for their housing payments, utility bills, etc. during times, often temporary, when their incomes fall because of unemployment or illness, etc.

Needed flexibility and streamlined operations of tribal housing agencies could be provided by reducing the categorical nature of the current housing management funding system and emphasizing its entitlement characteristics.

B. General Features

Whereas housing construction assistance might be provided every other year or even less often, grants for on-going property management have to be provided annually. This suggests the need for a separate, comprehensive, simplified and more flexible funding mechanism than the current categorical allocation process. It is proposed that an annual property management entitlement grant be awarded to Tribes based on a formula that takes into account, investment, the number of low-rent units in management (i.e., the higher the number of units to lower the per unit allocation); known construction and design deficiencies; estimated potential unemployment, etc.

Tribes could allocate funds from all sources: the annual management entitlement grant, families' housing payments, proceeds from interests bearing development funds, etc., for the wide variety of eligible management activities listed below based on annual and projected needs.

C. Eligible Property Management Activities

1. Designation of an administrative funding for a tribal property management or realty office different from the designated housing development agency if desired.
2. Payments into an interest bearing default or bad debt reserve.
3. Maintenance and utility payments for income-eligible low-rent and mutual help families.
4. Appraisals of value and price of rental or sales units.
5. Recording rental or sales agreements.
6. Property and credit life insurance premiums.
7. Housing payment collection costs and levying of appraisal and recording fees.
8. Land and boundary surveys and associated recording costs.
9. Investment of funds received from all sources in publicly secured financial instruments, the earnings from which could be used for eligible housing management activities.

D. Application and Review Requirements

1. Tribes would submit detailed annual budgets for allocating funds from all sources among eligible management activities.
2. Tribes would submit brief narrative statements justifying the proposed level of support for all eligible management activities.
3. HUD would review the budget and narrative for accuracy and adequacy of proposed allocation of total resources.

E. Implementation Requirements

1. All Tribes with existing program reservation would be entitled to receive an annual allocation.
2. Funds would be allocated to Tribes and they would be held legally and administratively accountable regardless of their disbursement organization and procedures.

3. Funds would be provided in a lump sum payment at the beginning of each fiscal year. After a number of years, HUD could reduce the annual allocation to reflect interest earnings of funds provided. For large Tribes of IHA's, this ought to result in a declining need for annual subsidies.

4. Certain priority categories of subsidy needs, such as low-rent utility payments would have to receive priority in any annual allocation plan. Deficits for non-priority items would have to be paid for either by the Tribe or from increased housing payments.

5. This alternative concept for housing development divides Indian Tribes and Alaska Native Villages into four categories of need, location and capacity and proposes four different housing development approaches appropriate to each category. The four categories and development approaches are:

   -- This category includes the 25 to 40 largest Tribes that have participated successfully in the existing Indian Housing Program; that have the greatest unmet need; that represent a long-term continuing "market" for federal housing assistance. A comprehensive Housing Grant Program is proposed.

   -- This category includes the 100-125 Tribes that have a substantial and continuing unmet need but limited capacity; that lack the legal, administrative and political framework for immediate participation in the comprehensive program. A "transition" development approach is proposed.

   -- This category includes the 100-125 Tribes that have a relatively limited need; that have some capacity; that are located within reasonable proximity to each.

TWO ALTERNATIVES FOR A COMPREHENSIVE INDIAN HOUSING PROGRAM

I. Program Objectives, Overall Design and Funding Approach

A. Introduction

Many of the recent analysis of the existing Indian Housing Programs clearly indicate that its problems are not nearly so serious and untractable as its critics suggest. Nevertheless, it must be acknowledged that there are problems with the existing program that can and should be connected and certain of its basic assumptions that can and should be changed. The existing program is flawed in the following ways:

-- It is based largely on the municipal government assumptions of the 1930's (independent commissions, for example) that never were and are not now relevant to Tribal governmental conventions, powers or realities.

-- It often results in houses and sites that are not in keeping with Indian cultural traditions or with today's energy costs.

-- It is the only housing resource available for Tribes and Alaska Villages but often does not provide housing opportunities for higher incomes tribal members--frequently the young, college educated--who need housing but cannot secure conventional mortgage loans because of the trust status of Indian land.

-- It is seriously over-regulated which adds to its costs and keeps local staff busier meeting bureaucratic requirements than building or managing housing projects.

The following program designs contain certain elements or themes which ought to result within one to three years in housing on Indian reservations and in Alaska Native Villages that is:

-- Cheaper to build than currently;

-- Cheaper to finance than currently;

-- Simple to administer both Tribally and federally;

-- Responsive to the diverse cultural and legal situations of different Tribes;

-- Provides incentives for families to pay more for their housing;

-- not as subject to abuse as current programs.

In addition, the programs should move Tribes and Alaska Native Villages toward independence from federal assistance in the provision of housing; create a more "normal" housing market on reservations; and reinforce self-determination. The key elements that will help achieve these objectives include:

-- Tribal Council legal and administrative responsibility;

- -- incentives for increased family financial responsibility;
- -- increasing the housing choices available to families and Tribes to make the programs more responsive to the cultural traditions and preferences of Tribes;
- -- decreasing federal regulations and intervention including reducing the MPS to a series of basic performance standards and eliminating the need for interagency funding;
- -- relating housing payments to both construction cost and family income;
- -- making existing programs more flexible;
- -- building on residents own construction or financial capabilities;
- -- recognition of the differences among Tribes with respect to administrative capacity.

Outlined below are two approaches for developing housing on Indian reservations and a separate consolidated housing or property management program. Each proposed approach is described only in concept and needs further development. Each approach meets some but not all of the objectives outlined above and includes mosd but not all of the elements needed to meet the objectives.

B. Basic Development Program Assumptions and Requirements

Although not always explicitly stated in the following development program concepts, several basic features are assumed.

1. All families must pay something for their housing even if the payment is only a family's welfare housing allowance.
2. All, expect very low-income, families' housing payments must bear some relationship to the cost of the house and as well as family income.
3. It is assumed that if tribal councils are required to take responsibility for the provision and maintenance of housing this increased level of direct political accountability will correct many of the administrative deficiencies in the current program.
4. It is assumed that if members and complexity of program requirements are reduced, construction and administrative costs will also be reduced.
5. It is assumed that if the ability to buy and sell houses at fair market value is introduced on reservations, that homeowners will have an incentive for increasing their equity and making housing payments regularly; that the creation of a "normal" housing market on reservations will eventually reduce the demand for federal assistance.
6. It is assumed that if either of the alternatives is adopted, a more culturally responsive Indian housing program will result.

Each of the development alternatives presented is based on these assumptions.

C. Overall Program Design Alternatives

1. Stratified Housing Development Concept - Alternative 1

The proposed concept provides for four different development methods depending on the need and capacity of Tribes.

- For Tribes with large unmet needs and substantial administrative capacity, a comprehensive housing grant approach is proposed.
- For Tribes with substantial unmet need for limited administrative capacity a "transition" approach is proposed under which these Tribes would graduall" assume more independent (of HUD) responsibility until they can be "spun off" into the comprehensive grant funding system.
- For smaller Tribes with relatively small needs and some capacity, an "umbrella agency" approach is proposed.
- For very small geographically isolated Tribes with small housing needs and no administrative capacity, a direct federal development approach is proposed.

This "stratified" (by Tribal need, location and capacity) approach is administiatively complex and would require major statutory and regulatory change. It recognizes, however, the diversity among Tribes and may be a practical and realistic alternative to the existing program.

2. Consolidated Community Development Housing Block Grant Approach

This proposed development concept would simply make a broad range of housing financial and construction assistance directly elgibile Indian Community Development Block Grant activities. This would be a minor expansion of current Community Development Block Grant regulations that already provide for housing construction and financive under limited circumstances. No other statutory changes need be made. The adequate and flexible administrative regulatory framework alread exists.

The Community Development Block Grant program appears to be working reasonably well on most reservations and may be an appropriate funding vehicle for housing as well as community development assistance.

3. Housing Management and Operating Subsidies

Property management is an on-going responsibility. A flexible annual "entitlement" funding approach with expanded numbers and kinds of eligible management activities is proposed.

- It is more costly to build and maintain than other comparable federally assisted housing even if not to the extent claimed by its critics.
- Rent or housing payment collection are a problem even if most cities' rent collecions problems are worse.

-- Indian Housing Authorities sometimes do act whimsically and irresponsibly with resulting misuse and mismanagement of funds even if they are models of civic virtue compared to some city housing authorities.

There are many alternatives for addressing these problems. Just rewriting the regulations to make them simplier and more flexible may be all that is needed. Perhaps, however, the current budget crisis presents Tribes. The Congress with an opportunity to rethink the Indian Housing Program and design a new and better approach to the provision of housing assistance for Indian Tribes and Alaska Village Native.

II. Alternative 1: Stratefied Development Concept to each other; that could pool resources for greatest operational efficiency. For Tribes in this category are "umbrella or joint-agency development" approach is proposed.

This category includes the 200-250 very small very isolated Tribes and Alaska Native Villages that have very small individual needs; that have virtually no governmental or administrative capacity. For these Tribes and Villages, it is proposed that the federal government (HUD) itself develop the needed housing.

B. Overall Funding Approach for the Stratefied Development Concept

1. Generally, the overall funding approach of the Stratefied Development Concept would be to reduce annually the need for the existing Indian housing program funds and increase annually the appropriations for the less expensive comprehensive grant program until finally, at the end of three to five years, all Tribes with a housing need would be funded only from comprehensive grant funds.

2. Cancel all existing annual contributions contracts that have not gone out to bid. This should yield between 10,000 and 12,000 units. These units would form the initial resource pool for "transition" and "umbrella-agency" Tribes. It is estimated that there are about 150-200 Tribes with total overall housing needs for about 30,000 to 35,000 units fall into these categories. The estimated 12,000 units of cancelled Indian housing would be sufficient for about two-years, assuming an annual consumable allocation of about 6,000 units per year. At least 1,000 units per year must be set aside for the HUD-supervised projects. Additional funds for about 3,000 to 3,500 units per year thereafter would have to be appropriated to accommodate the residual needs of the "umbrella-agency" Tribes. This low figure assumes that the "transition" Tribes would have begun participating in the comprehensive program by this time and that the needs of the HUD-supervised Tribes will have been met.

3. Appropriate $100M in 1982, $150M in 1983, $20M in 1984, etc., to accommodate the growing number of Tribes that have developed capacity to participate in the comprehensive grant program. Assuming an average total design and construction cost including water, sewer and access of $75,000 per unit (this may be low average cost), $100M yields,

1,333 units, $150M about 2,000 units, etc. This means that the actual overall unit allocation of Indian housing in 1982 would be about 6,333 but would represent a substantial dollar savings because of all but 1,333 of the units are from funds already appropriated.

4. An alternative funding strategy would be to leave the existing Indian pipeline in place and fund new units for transition, umbrella-agency and HUD-supervised Tribes from the existing unused and non-Indian public housing pipeline. The analysis of this pipeline clearly reveals a development pace slower than most Indian programs. This would accomplish the same overall cost savings but would simply use a different source of funds for establishing the original resource pool. The add-on $100M for the first year of the new program would still have to be separately appropriated.

C. Overall Federal Financing Concept for Development

The federal government currently pays for almost 100% of the cost of the Indian low rent housing program. The notion of mutual help families "buying" their own homes and repaying the government is not reflected in reality. Families housing payments most often go entirely toward the operating costs of IHA's The federal government, in fact, is rarely paid back. It probably makes the most sense for the government to acknowledge this up front and finance the Indian housing program as a direct grant program. If the government chooses to continue making annual appropriations and payments (i.e., annual contributions) against its long term debt, that financing mechanism need not impact Tribal government in the form of the complex financial and contractual arrangements of an annual contributions contract.

D. Development Program Design - Generally Applicable Application and Review Requirements for the Stratefied Development Concept.

1. All Tribes submit qualification statements including the following kinds of information:

   - categories of housing needs;
   - numbers of families in each category;
   - number of units by category of need that Tribes estimate they can build in each of the next three years including lead time, construction season, etc.;
   - financing approaches in brief;
   - administrative plan - a description of the Tribally designated organization that will be responsible for building and managing the program.
   - professional experience of top management staff and their training needs. A description of the Tribe's previous experience in HUD's housing programs.

2. HUD determines the level of Tribal administrative capacity and the adequacy of the qualifications statement;

3. HUD invites one of two kinds of applications from the following kinds of Tribes:

   - a "regular" program reservation application for the first increment of the three-year plan from "transition" or "umbrella agency" Tribes'

   - a two or three year application for the Comprehensive Indian Housing Program from Tribes with demonstrated capacity;

4. HUD would inform Tribes that can only receive directly supervised housing projects of how many units HUD would expect to be able to provide them during the coming year.

5. Tribes submitting acceptable "regular" program applications would be funded from the 12,000 unit pool of low-rent/mutual help funds. In the first year, HUD reviews could be as thorough and exhaustive as currently. In each subsequent year, HUD's review and points of intervention would be reduced until, at the end of the third year, the Tribe can be "spun-off",into the comprehensive program;

6. Tribes submitting applications for the Comprehensive Program would be funded from the new appropriation under the terms of an annual funding plan developed by HUD after prior consultation with Tribes. All housing activities would be funded under a single contract. Funds would be committed for up to three years subject to appropriations and adequate performance.

E. Program Design for the First Tier of the Stratefied Development Concept: Comprehensive Indian Housing Program

1. General Features

Applicants whose previous experience with HUD housing programs has been successful and whose population size and qualifications statements demonstrate a long-term need for housing assistance would be invitied immediately to participate in the Comprehensive Indian Housing Program. Under this development method, Tribes could use their annual housing grants as a Tribal housing finance resource as well as a construction funding resource. Tribes would be able to assume full control and responsibility for the provision of a wide variety of housing assistance to reservation residents under the provisions of a new set of eligible housing activities and administrative requirements. The federal government's role would be substantially diminished, as would the government's liabilities.

2. Eligible Housing Assistance Activities

Applicants invited to participate in the Comprehensive Housing Program could carry out the following kinds of expanded housing assistance activities:

a. 100% housing construction grants to very low income families (these families would still have to pay something for their housing even if only a modest administrative fee);

b. partial housing construction grants and loans for Tribal members;

c. housing maintenance and repairs grants and loans for Tribal members;

d. interest and other subsidies for Tribal members;

e. investment in publicly secured bonds, notes, etc., the yield and principal of which will be used to provide eligible housing assistance. No more than 50% of any year's grant could be used for this purpose;

f. provision of loan guarantees or other security for individual resident's home loans with private or public financial institutions both Indian and non-Indian;

g. establishment of a revolving fund for families' housing payments and disbursement of such funds for eligible housing activities;

h. direct and indirect housing planning, design, inspection and administrative costs;

i. payment of wages, etc. for Tribal force account work crews involved in building or rehabilitating housing of reservation residents;

j. provision of on-site and off-site water, sewer, utility and roads development as determined necessary by the Tribe with HUD's concurrence;

k. acquisition and resale of HUD-assisted and other housing units on reservation or underwriting the costs of acquisition by individual families;

l. establishment of Tribal minimum property standards that may not exceed existing minimum property standards and may not be lower than the following for new construction:

  - Units must be structurally sound according to acceptable construction performance standards;
  - A potable water supply must be (i.e., within comfortable walking distance) nearby; units must have at least stubbed-in plumbing;
  - Units must be provided with adequate sanitary sewage facilities treatment;
  - Units must be energy efficient and comfortable both in winter and summer;
  - Interior wiring must be provided even if power is not currently available;

- The site and soil for each unit must be able to accept the wright and effluent of the unit.

m. hiring of contractors for building or rehabilitating housing.

n. establishing tribal wage rates.

3. Application and Review Requirements

   a. Tribes would submit qualifications statements as described agove.

   b. Based on the statement, Tribes would be invited to submit a Comprehensive Housing Program Application describing how it would use the resources provided to serve Tribal members' and reservation residents' housing needs.

   c. HUD would award a comprehensive contract encompassing all requested kinds of eligible and appropriate housing assistance. The contract would also include such conditions as might be necessary to insure compliance with law and regulation.

   d. HUD could commit funds for up to three years, subject to appropriations and adequate performance so that Tribes could plan against known resources. Succeeding years' applications would consist of updated plans, general performance assessments and annual budgets.

4. Implementation Requirements

   The following kinds of regulatory policies would have to be provided for:

   a. distribution of funds among categories of need of Tribal residents would have to equitable and in accord with a Tribal strategy that takes into consideration all categories of need.

   b. frequent inspections by a qualified independent inspector of all construction or rehabilitation would be required;

   c. all but very low-income families' housing payments would have to bear a logical relationship between income and the cost of construction or rehabilitation;

   d. family size, unit size and construction costs would have to be reasonable. Excessive construction costs would be subject either to recapture or deduction from subsequent years' grants.

      HUD would set total average per unit construction cost ceilings within which Tribes would have to operate. For example, assume an average total construction cost ceiling of $75,000. If a family wished to site its unit so far from existing power lines that the cost ceiling would not allow for the provision of electricity and the other amenities the family wished to include, the family could elect to forego electricity in favor or more bedrooms or vice versa. The choice of non-structural amenities would be the family's or Tribe's to make. It would not be dictated by the government.

e. Tribes would be required to designate housing development administrative agencies with sufficient management capabilities to insure the timely completion and occupancy of HUD assisted units. Tribes would be held contractually accountable to the federal government for providing the number of kinds of housing units or assistance it said it would in its application.

f. The funding mechanism would be a special housing letter of credit that would allow for the possibility, with prior HUD approval, of lump-sum drawdowns necessary for approved investments or underwriting components of a Tribe's application.

5. Program Design for the Second Tier of the Stratified Development Concept: "Transition Tribes Program"

1. General Features

Many Tribes (ie. about 150-200) that have a long-term unmet housing need to not now leave the political, legal or administrative capacity to participate successfully in the Comprehensive Housing Program. It is important that such Tribes not "be set up to jail" by prematurely requiring them to assume all the legal, technical and administrative responsibilities of the Comprehensive Housing Program. For this reason, it is proposed that Tribes in this situation use a "Transition" development method until such time as they are prepared to take over the full range of housing responsibilities contemplated under the Comprehensive Housing Program. It is estimated that a one-to-three year transition period would be required for these Tribes to be "spun-off" into the new program.

During the one-to-three year transition period, Tribes is this category would participate in the current program, probably at reduced funding levels. They would "practice" assuming greater control over the development process on small scale projects. Each year the Tribes' responsibilities would increase and HUD's would decrease. Housing planning and policy development would also be phased in during the transition period.

2. Application Requirements

a. Tribes would submit qualification statements as for the comprehensive program. It would be based on these statements that HUD would determine about how long a Tribe's transition period would be.

b. Tribes would be invited to submit a first year program reservation application for the number of units that HUD and the Tribes agree are needed and appropriate to the Tribes' capacity.

c. As part of the approved annual contributions contract HUD would include specific performance expectations as to what portions of the development process the Tribe would be expected to absorb. In addition, HUD could precommit units for second or succeeding years (up to three) subject to availability of funds and adequate Tribal performance. Tribes could then plan ahead for the timing and contents of succeeding years applications for program reservations.

3. Implementation Requirements

a. The ACC would be with Tribes, not IHA's. Tribes would be held legally and administratively accountable by the federal government for honoring the terms of the contract.

b. Tribes would be required to designate a housing agency and staff. Tribes could, if they wished, disband the IHA Board, or Tribes could retain the IHA Board and, acting as a "pass-through" agency, and give the housing funds to the IHA. This would be a Tribe's option. The government's only concern would be that there be a competent Tribal housing delivery system, not what form it takes.

c. Tribes could petition HUD field offices for relief from existing program requirements such as the MPS, Davis-Bacon, Indian Preference, etc. Field offices would have the authority to approve reasonable requests for waiver of such program requirements. Standards for waivers would be established in regulations.

F. Program Design for the Third Tier of the Stratified Development Concept: "Umbrella" or "Joint-Agency" Program

1. General Features

Umbrella or joint housing agencies could be established by smaller Tribes with relatively small (i.e., 100 units) and finite housing needs. It should not be necessary for Tribes in this category to establish and on-going housing development capacity for a one-or-two shot housing need. Nor should it be necessary for them to go through the more elaborate "transition" process outlined above.

The assumption would be that once the existing unmet needs have been met, further housing development would be unnecessary. This would particulary be the case if the buying and selling of HUD-assisted housing is made possible. The creation of a "normal" housing market could probably take care of family formation, etc.

2. Application Requirements

   a. Tribes would submit qualifications statements as above.

   b. HUD would invite the submission of a first-year program reservation application based on the needs indentified.

   c. With their program reservation applications, Tribes would describe the powers, authority and capability of joint-housing agency they have agreed to join or create with other Tribes. HUD would include in the ACC, special contract conditions that would commit the Tribe to insuring that the umbrella housing agency would operate in a competent manner. In addition, HUD could precommit the next increment of a Tribe's total housing need subject to availability of funds and adequate performance. This would enable individual Tribes to plan ahead and schedule how and when they would be able to meet their total known housing need.

3. Implementation Requirements

   a. Individual Tribes would be legally and administratively responsible to HUD for running their housing program.

   b. Individual Tribes would sign contracts with the joint housing agency for the provision of specific services to the Tribe in the development of housing. The Tribe would also have to commit to provision of sites, etc. that the joint agency would have to have before it could proceed with development. The joint agency would be legally and administratively responsible to the Tribes with which contracts have been signed.

   c. Individual Tribes would control the disbursement of funds to the joint agency upon receipt of billings for work accomplished. Tribes could advance modest sums to the joint agency to cover development start up costs.

G. Program Design for the Fourth Tier of the Stratified Development Concept: The Directly Funded Program

1. General Features

   It is estimated that about 200 to 250 Tribes are so small and so isolated that none of the other development methods are appropriate to meeting these Tribes housing needs. These are the Tribes that need fewer than 25 to 50 units; that are so isolated that the creation of a joint housing agency is impractical and have so few human resources and administrative capacity that they could not successfully implement their own housing program. For these Tribes it is proposed that HUD provide the needed units directly.

2. Application Requirements

   a. Tribes would submit qualification statements as above.

b. HUD would determine, based on the statement, that these Tribes could not reasonably or economically accept responsibility for independently developing their own housing and could not practically join forces with other Tribes to pool resources.

c. HUD would inform these Tribes of the number of units ear-marked for them and outline an individually tailored construction process and schedule by which HUD would assume responsibility for directly providing the units without recourse to any Tribal administrative organization. HUD, would, of course, have to work through the Tribal Council.

3. Implementation Procedure

a. Together HUD staff and the Council would determine the number of units needed; their general locations of sites; and the desired design features.

b. HUD staff would either contract with an & & E firm or design and engineer the units themselves.

c. HUD would itself seek bids, secure a contractor to build the units and inspect and accept the work prior to payment of the contractor.

d. The Tribal Council would act on behalf of individual beneficiaries in the final acceptance and occupancy of the units.

III. Alternative 2 - Community & Housing Development Block Grant Program

A. Introduction

A simpler way to accomplish many of the objectives listed in the introduction would be to provide housing construction and financing assistance to Tribes under the Indian CDBG program.

Currently, housing construction and financing are already eligible under the CDBG program under certain circumstances (i.e., as part of an economic development project or as "last resort housing" under the Uniform Relocation Act). In the isolated cases where CDBG funds have been used to build houses, construction, administration and design costs have been substantially lower than under the existing Indian Housing programs. There are far too few examples of CDBG-built housing from which to generalize but it appears that the flexibility and relative simplicity of the CDBG program may contribute to dramatic cost reduction when compared with the existing program. However, quality control and inadequate protection of the federal interest could be serious problems because the CDBG program regulations require only limited federal control and oversight.

B. Overall Funding Approach

1. The provision of housing construction and financing assistance would be made an eligible CDBG activity for grants provided under the Secretary's Discretionary Fund. This limited statutory amendment and a few, technical, conforming amendments would be the only legislative actions required. The remainder of the necessary changes could be made by revising the existing Indian CDBG regulations. In short, this approach would not require the sweeping changes contemplated under the simple and efficient funding and administrative vehicle that could be easily adapted to the provision of housing already exists. A new one would not have to be invented. It should be noted that this amendment could benefit Guam, American Samoa, etc. where cost and cultural considerations similar to those on Indian reservations prevail. It would not affect the "city" CDBG programs which are funded under different sections of the H & CD Act of 1974 and are governed under different regulations.

2. The existing Indian housing pipeline would be allowed to run out. Current estimates as to its size about 15,000 units suggest that the existing pipeline would last about two, possibly three years, thereby providing an adequate planning and transition period for Tribes.

C. Overall Federal Financing Concept

As with a part of the first alternative, this would be a grant program. Tribes would not have to be concerned with how the federal government finances its debt. If the cost savings are as dramatic as it appears that they might be, it is possible that the long-term federal debt and continuing appropriations could be substantially reduced.

D. Program design for Indian Community and Housing Development Block Grants

1. General Features

The provision of housing assistance would be like any other CDBG activity. It could be funded using the same or similar field allocation process. Tribes could apply for housing assistance along with other CDBG-eligible activities and receive funds under the same contract. Tribes would be legally and administratively responsible although they could contract with other agencies such as the IHA or tribal realty office for the construction and management of housing.

2. Eligible Housing Assistance Activities

Housing construction and financing assistance such as the following could be provided with CDBG housing funds.

a. 100% housing construction grants to very low-income tribal members. Such families would still have to pay an administrative fee.

b. Loans and loan guarantees to finance construction or acquisition of housing for moderate and upper income tribal members.

c. Needed interest or other subsidies for eligible tribal members as determined by the Tribe.

d. Investment in publicly secured bonds, notes, etc.; the yield and principal of which would be used to provide eligible housing assistance.

e. Establishment of revolving funds for families housing payments and disbursement of such funds for eligible housing activities.

f. Acquisition, or rehabilitation for rental or resale of privately owned residential structures.

g. Acquisition, construction or rehabilitation of tribally owned residential structures for rental or resale.

h. Use of funds as guarantees for tribally sponsored privately-financed housing loans, notes, bonds, etc.

i. Payment of wages, etc. for tribal force account work crews involved in building or rehabilitating housing of residential residents.

j. Provision of on-site and off-site water, sewer, utility and access costs associated with the construction of housing.

k. Direct and indirect costs for planning, design, inspection and administrative costs associated with housing construction or rehabilitation.

l. Costs associated with establishment of tribal wage rates.

Note: The actual statutory language could be more general such as: CDBG housing funds may be used for all costs necessary to provide housing construction and financing assistance to tribal residents provided that the costs are necessary and appropriate to the provision of needed housing; that the funds provided are equitably distributed among tribal residents needing assistance; that the housing is or will be the permanent full time residence of the beneficiaries; that the units are built within HUD-determined construction and administrative costs.

3. Application, Allocation and Review Requirements

   a. Application Requirements

   1. Tribes would submit, as part of their CDBG preapplication, a description of the housing assistance program they intend to carry out during the grant period; either one, two or three years depending on whether or not the preapplication is for a basic or comprehensive grant.

   2. The description would have to:

      demonstrate the need for the assistance to be provided, including income and other data as appropriate to justify the need;

      demonstrate that the Tribe has the administrative capacity to carry out the program as proposed, including a plan for how the Tribe intends to administer the program.

   -- include the construction quality and amenity standards to be used.

   which for new construction may not exceed federal minimum property standards or be lower than the following:

   - Units must be structurally sound according to acceptable construction performance standards;
   - A potable water supply must be nearby (i.e., within comfortable walking distance), units must have at least stubbed-in plumbing;
   - Units must be provided with adequate sanitary sewage treatment facilities;
   - Units must be energy efficient and comfortable both winter and summer;
   - Interior wiring must be provided even if power is not currently available;
   - The site and soil for each unit must be able to accept the weight and effluent of each unit.

3. The average per unit construction cost not including design engineering and administrative fees, must be identified and may not exceed a pre-determined construction cost ceiling established by HUD for the market area.

4. Within the average per unit construction costs, the Tribe and the benefitting families would select the site and amenities to be included in each unit. If a family elects to site its unit away from an existing power line, it may do so, but the house may also be built without electricity service if the costs exceed the pre-determined ceiling and the Tribe or the family cannot pay for extending the power line. In other words, the choice of non-structural amenities is up to the Tribe or the families, but the Communit

Development Block Grant program will not be required to pay for excess costs.

b. Allocation Requirements

Housing funds would be allocated to field offices with Community Development funds according to a population-based formula that would also take into account the unmet housing need.

c. Review Requirements

1. HUD's review of preapplications proposing a housing project would be based on an objective and competitive rating scale that would include such factors as:

   -- need and appropriateness;

   -- cost effectiveness;

   -- energy efficiency;

   -- cultural responsiveness;

   -- planning and design quality;

   -- tribal resource utilization, etc.

2. Housing proposals would be reviewed and rated along with Community Development proposals to facilitate a comprehensive review of Tribes' plans but funding decisions would be made from the separate and community Development Block Grant housing allocation.

3. HUD would invite consolidated community development and housing full applications, and subsequent to review would issue a single grant award that would include such conditions as may be necessary and appropriate to insure the programs are adequately administered.

d. Implementation Requirements

1. Tribes would be held, by contractual agreement with HUD, legally and administratively accountable for carrying out their housing program as proposed and approved. Failure to do so would result in adverse capacity determinations and no funding until such time as performance improved.

2. Tribal councils would be the policy-setting body but would be required to resignate either a tribal housing agency or "contract" for housing construction management services with a joint tribal agency or consulting firm.

   The following kinds of regulatory policies would also have to be provided for:

   a. distribution of funds among categories of need of Tribal residents would have to be equitable and in accord with a Tribal strategy that takes into consideration all categories of need;

   b. frequent inspections by a qualified independent inspector of all construction or rehabilitation would be required;

c. all except very low income families' housing payments would have to bear a logical relationship between income and the cost of construction or rehabilitation;

d. the funding mechanism would be a special housing letter of credit that would allow for the possibility, with prior HUD approval, of lump-sum drawdowns necessary for approved investments or underwriting components of a Tribe's application, if current letter of credit restrictions do not provide for such a procedure.

3. Tribes could use existing Community Development Block Grant provisions for comprehensive one, two or three year grants to carry out comprehensive programs using funds from both community development and housing sources in a completely coordinated and planned manner. Such grants would always be subject to appropriations.

V. Other Needed Changes

A. Introduction

In order for Tribes to move towards independence from federal housing assistance by creating a "unusual" housing market on Indian reservations, certain changes in existing statutes and outstanding annual contributions contracts must ultimately be made in order to provide the incentives for Tribes to enforce rent collections and for families to make housing payments. These changes are briefly described.

B. Tribal Responsibility for Rent Collections

The existing Tribal Ordinance requires Tribes to establish procedures for evicting families in mutual-help units for non-payment of rent. For the reasons described in the foregoing analysis, this puts many Tribes into the untimable political position of taking away a benefit (i.e. a house) from a family that the Tribal Council never had the political advantage of providing in the first place. Under either of the proposed development concepts, this problem has been addressed. The problem remains for existing mutual-help families who refuse to make their housing payments, particularly if the houses are built on family assignments.

Tribes will be reluctant but must eventually be required to accept their ultimate responsibility. The easiest way to accomplish this may be to transfer all existing ACC's from IHA's to Tribes. This may require legislation and the drafting of new contracts that restrict tribal liability in certain areas.

C. Incentives for Families to make Housing Payments.

In order to make Tribes more willing to accept responsibility for enforcing the Tribal ordinance, it may be appropriate to devise ways for providing an economic incentive for families in existing mutual-help units to at least make their current housing payments if not to make greater contrbutions towards the cost of their houses. One way to accomplish this would be to allow families to sell their mutual-help units to other tribal members for the value of their equity contributions, and possibly including appreciation as measured by the inflation rate of construction costs. Tribes could undersrite this kind of transaction by using comprehensive grant or CDBG development assistance funds if either of these programs is enacted. Similarly, an economic incentive to make housing payments might be created, if mutual-help occupants were allowed to borrow against the equity they have built up in their houses.

It is not particularly unusual for houses to stand vacant on reservations because their owners have moved away either permanently or temporarily. Vacant houses, by any definition, are a wasted resource and some vehicle for buying, selling and/or renting them should be investigated. If such a vehicle could be developed, the overall federal housing assistance need, at least on the larger reservations would require substantial changes in tribal assignment policies, however, some way of sub-dividing assignments and re-negotiating existing leases with IHA's would be requried. Substantial legal research would also be required.

D. New Financing Techniques

"Creative" financing has become a buzz-word in the non-Indian housing market. New techniques for financing Indian Housing should be explored at least in those segments of reservation populations that could afford to pay for their own housing, perhaps with modest subsidies. Federal loan guarantees or tribal loan guarantees might be one approach. The enactment of the Indian Government Tax Status Act coupled with some form of guarantee might be another.

The use of federal housing resources to create a housing construction and rehabilitation revolving fund with appropriate reserves for bad debt and credit life insurance is another vehicle that might be applicable.

Housing and Urban Development

STATEMENT OF CARL A. S. COAN, JR., LEGISLATIVE COUNSEL, NATIONAL HOUSING CONFERENCE, INC.

Senator Huddleston. Next is Mr. Carl Coan, legislative counsel, National Housing Conference, Inc.

Mr. Coan. My name is Carl Coan. I appear as legislative counsel for the National Housing Conference. On its behalf I thank you for the opportunity to testify today.

The National Housing Conference just recently held its annual meeting, marking 50 years of efforts on behalf of decent and adequate housing and good communities for all Americans, regardless of income.

In preparing for this meeting, we reviewed the circumtances which led to NHC's creation back in 1931, in order to see what progress we had made since that time.

While there is no question that we have made great progress in reducing the incidence of substandard housing and are much more conscious now of the problems that confront our urban and rural communities and how to deal with these problems, the problems that confronted the Nation in 1931 were disturbingly similar to those confronting us today.

In 1931, the country was confronted with depressed housing production; an inadequate system of housing finance; the inability of many Americans to achieve the goal of home ownership; large numbers of citizens unable to afford decent housing, even if there had been an adequate supply; widespread slums and blight and inadequate community facilities; and a felt need to reduce the cost of new housing through new technologies and the modernization and simplification of building regulations. These are the problems confronting us today; maybe of a different degree in some instances or in a different context, but nevertheless still there.

NUMEROUS STATUTES ON BOOKS

It is in this context that I should like to address my remarks today to the job that this subcommittee and the Congress have before them this year. Unlike 1931, there is a vast array of statutes on the books aimed at making a reality of the commitment contained in the Housing Act of 1949 of a decent home and a suitable living environment for every American.

The mortgage insurance programs of the Federal Housing Administration; the mortgage-backed securities program of the Government National Mortgage Association; the section 8 and public housing programs to provide housing for the lower income; and the community development block grant and UDAG programs to assist communities, were all designed and enacted to help us make that commitment of 1949 a reality. They are not perfect programs and they have been revised and modified as circumstances have warranted over the years. Nevertheless, they are essential to meeting that commitment.

The appropriations for these programs for fiscal year 1982 are now before you. The decisions that you make will be extremely important ones, for they may well portend the future direction which the Nation will take in dealing with the housing needs of its citizens and the needs of its urban communities.

Because of economic and budgetary conditions, there have been major restraints placed on these programs over the last several years. On many occasions NHC has felt that these restraints were unnecessary or too severe, even though we recognized the problems in attempting to allocate resources which never seem to be quite enough for all competing and valid claims.

Pending before the Congress now, however, and even partially acted on in some cases, are proposals that would, in the name of the economy, drastically reduce already inadequate program levels.

FURTHER CUTS UNWARRANTED

We feel strongly that the further cuts proposed by the administration in HUD appropriations levels from those levels recommended by the previous administration in January are unwarranted. In some instances, these cuts would achieve no budgetary savings at all. In other instances, they would require the housing and community development programs to shoulder a disproportionate share of the effort to reduce the budget.

The basic message I should like to present to you today is that the National Housing Conference supports the HUD budget recommendations contained in the budget submitted to the Congress in January by President Carter. It does this reluctantly, because it feels in several instances, especially in the case of assisted housing, that the requested levels are too low. However, it recognizes the reality now confronting the Congress and the Nation, and accedes to the need for restraint.

Therefore, we support the 260,000 unit level for section 8 and public housing, rather than the one-third reduction to 175,000 units proposed by the present administration, or the even further reduction that seems inherent in the First Concurrent Budget Resolution.

We also urge that the majority of these units be provided through new construction and substantial rehabilitation.

In making its decisions, the subcommittee should take into consideration the present state of the housing industry and the general housing situation in the Nation today. Housing production is down substantially below the minimum start level of 2 million units per year that almost all agree is needed at this time, and we are confronted right now with the tightest rental market we have seen in at least 20 years. Inflation and high mortgage interest rates, at the very time that housing needs are increasing, have brought about this set of circumstances. In the increasingly fierce competition for decent affordable housing that will result from these circumstances, the losers will be lower income families and the elderly. Their plight will be made even worse, if the 175,000 unit level recommended by the administration is adopted and a disproportionate reliance is placed on existing housing.

SECTION 8 FUNDING IMPERATIVE

It is also important that there be financing available for the section 8 program. Units under that program can neither be built nor added to the stock through substantial rehabilitation at today's mortgage interest rate levels. It is therefore imperative that sufficient tandem funding be made available.

The administration has requested $3.6 billion for fiscal year 1982 in order to clear out the pipeline. We believe that the tandem program for section 8 projects should be retained, and we also believe that it is cost-ineffective to wait until next fiscal year to make financing available for those section 8 projects now ready to proceed. We urge the subcommittee to make further tandem funds available this fiscal year, with perhaps $1.6 billion for this year and $2 billion for next year.

Other housing programs that we believe should continue to be funded next year are the 312 rehabilitation loan program, the 202 loan program for the elderly and the 235 homeownership program. We recommend that the subcommittee disregard the Carter budget proposal and provide funding for the 235 program for fiscal year 1982. We also recommend that the subcommittee seriously consider allowing 235 contract and budget authority recaptured from the many mortgages paid off in the past to be used to support continuation of that program.

We support the full, authorized level of appropriations for the community development block grant and UDAG programs. The amounts authorized for these programs have not really kept up with inflation. To reduce them even further, as recommended by the administration, while at the same time calling upon these programs to take on responsibilities under the 701, 312 and weatherization programs, will just exacerbate the problems of our cities.

One of the most inexplicable proposals by the administration is to reduce the level of commitment authority for the FHA mortgage insurance and GNMA mortgage-backed securities programs. These programs have no negative budgetary impact, and, in fact, probably have a positive impact. The programs are also mainstays in the ongoing effort to make a reality of the 1949 goal of a decent home for every American.

While we believe that there is no real justification for putting any cap on commitments under these programs, we feel, as a minimum, that these caps should be high enough to permit these programs to be able to continue to function in response to market demand without artificial restraint.

I should like to add, we don't believe that they in any way constitute undue competition on the private mortgage insurance industry.

RESOLUTIONS SUMMARIZED

At its annual meeting in April, NHC adopted a broad range of resolutions on meeting the Nation's housing and community development needs. I have attached to my statement a summarization of the principal points set out in these resolutions.

These resolutions call for a continued, substantial Federal role in meeting the housing and community development needs of the Nation. They also urge that the proposed abolition of existing programs or sharp reductions in their funding be resisted.

[The information follows:]

PREAMBLE—NHC STATEMENT ON MAJOR ISSUES AFFECTING HOUSING AND COMMUNITY DEVELOPMENT

The impact of the present tight money and high interest rate policy of the Federal Reserve, coupled with the impact of inflation on housing construction and operation costs, have caused a sharp drop in the number of new housing units produced. There is an unquestioned demand for over two million additional units each year, including 600,000 units for the low and moderate income. Yet, in 1980 less than 1.3 million new units were started and the outlook for 1981 is for only 1.4-1.5 million units.

Housing has already been sharply curtailed and should not be asked to shoulder a further, disproportionate share of the burden of fighting inflation. The failure to provide an adequate level of housing to meet demand is inflationary in itself, driving up the cost of the housing that is available and contributing to higher unemployment and, therefore, higher government costs. To meet the nation's housing needs, there should be made available an adequate level of mortgage funds in both urban and rural areas and the present minimal level of assistance to low and moderate income housing should be maintained.

A. Section 8 and Public Housing Funding Levels.

Support the funding of the Section 8 and Public Housing programs at the levels approved in the Appropriations Act for FY 1981 (254,500 units) and as proposed in the January Budget submission to the Congress (260,000 units).

B. Mortgage Financing for HUD Multifamily Projects.

Support a program of GNMA Tandem funding and tax-exempt finance which will be adequate to meet the permanent mortgage financing needs for those many thousands of housing units, approved for Section 8 assistance or in contemplation of Tandem financing and on which construction has not been able to proceed because of a lack of permanent mortgage funds at an affordable interest rate. This program should also be adequate to meet the permanent financing needs of those Section 8 projects for which funds are committed during the remainder of FY 1981 and during FY 1982.

C. Section 235.

Immediately implement the increased mortgage limits as provided for in the 1980 Housing Act and/or redistribute the present allocation of funds to areas where the program is financially feasible.

Immediately implement the recapture provisions of the 1980 Housing Act and permit the reuse of the recaptured funds in order to permit the program to become self-supporting.

D. Credit Budget Limits on FHA and GNMA.

Support the removal of the annual limits on commitments under the FHA Mortgage Insurance and GNMA Mortgage-Backed Securities Programs as an unnecessary imposition of government regulation upon the private credit markets for housing.

E. Tax-Exempt Bond Finance.

Support the prompt issuance by the IRS of workable regulations implementing the 1980 Mortgage Revenue Bond Legislation and the enactment of such statutory amendments as are necessary to assure that such financing will be available for both ownership and rental housing, including rehabilitation, for the low and moderate income.

F. Farmers Home Administration Housing Programs.

Support funding of the FmHA housing programs at the levels approved in the Appropriations Act for FY 1981 (122,000 units) and as proposed in the January Budget submission to the Congress (116,700 units).

Support a revision to the Section 502 interest credit program which would permit the use of recaptured funds for new mortgage loans. Oppose the effort to prohibit FmHA from borrowing through the Federal Financing Bank, in order to prevent a significant increase in the cost of borrowing.

G. Public Housing.

Modernization Program. Support full funding of the public housing modernization program in FY 1981 and FY 1982.

Operating Subsidies. Support the provision of adequate operating subsidies to keep the public housing program viable.

H. Rent-to-Income Ratios.

Oppose any effort to require low-income residents in public housing, and Section 8 and other assisted housing programs to pay a higher income percentage than 25% of income.

I. Section 312 Rehabilitation Loan Program.

Support the continuance and effective use of this program and oppose any effort for its discontinuance.

J. Urban Development Action Grant Program.

Support the continuance and effective use of this program. Oppose any effort to disband the program and fold it into the Community Development Block Grant Program.

K. Tax Incentives.

Because we support a continuance of more favorable treatment for rental housing and especially low and moderate income rental housing, we oppose the Administration's tax proposals which would provide much shorter depreciation periods for both residential and nonresidential real property used for business purposes. These proposals would reverse the more favorable tax treatment now provided for investment in rental housing, and especially in low and moderate income rental housing, in contrast to office buildings and other nonresidential real property. We support a continuance of more favorable treatment for rental housing, and especially low and moderate income rental housing.

L. Call for a White House Conference

NHC requests the President to call a White House conference on housing and community development to formulate a national housing policy suitable to deal with the imperding housing crisis which, according to all demographic data, will afflict the Nation throughout the Eighties.

NO TIME TO BACK AWAY

Mr. COAN. While we recognize that this is a time of restraint, it is also NHC's strong belief that this is not a time to back away from the commitments and programs developed over the past 50 years. We urge the subcommittee, in acting on HUD appropriations for fiscal year 1982, to recognize the need to move forward and not backward.

Thank you, Senator.

Senator HUDDLESTON. Thank you, Mr. Coan.

If we assume that we are going to be limited to the $162,000 to $175,000 range of units under section 8, what would be the other program options that would be among your priorities?

Mr. COAN. You mean in addition to that level, Senator?

Senator HUDDLESTON. Yes.

Mr. COAN. I think it doesn't make any sense to eliminate the 312 program. Yes, you can say, "Well, maybe we need to be somewhat more restrained in funding it," but the 312 program is an effective, functioning program to aid in the rehabilitation around the country. I think that the subcommittee should refuse to go along with the proposal that it be folded into the CD program because it will just get lost and will not be able to function.

In many States, there still is not an ability for local cities or the redevelopment agencies to make loans to private parties, as is the function of the 312 program.

The 701 program, again, is a program which probably could function at a lower level than the most desirable, but it does serve some more important functions. The CD program funding has not kept up with inflation If you keep folding into it other programs, you are just taking away from the ability of that program to meet the general renewal or redevelopment needs of our communities; 235, I should like to urge serious consideration.

One point I made, there is a lot of budget authority out there that has come back and contract authority that has come back to the Federal Government, in effect. If we are going to play the types of bookkeeping games that we play with the Federal budget, this is one that we can play and benefit the housing of people.

We can reuse that budget authority; we can reuse that contract authority, and it doesn't have to show up on the books for it. It is going to cost money—I am not denying that—over the years. But there is also now, in place, a recapture provision for 213 where a house has been sold and the profit has been made, the subsidy, for up to one-half of the net profit is recaptured and comes back to the Government. That can be used over a period of time to fund, many people believe, in an ongoing 235 program, without any additional appropriations—not in this year; it will take some time. Over time, it should very well become a self-sustaining and resolving situation.

Senator HUDDLESTON. We thank you very much for your thoughts and your testimony.

Mr. COAN. Thank you.

STATEMENT OF ROBERT ASTORINO, DIRECTOR, LOUISVILLE HOUSING AUTHORITY, KENTUCKY

Senator HUDDLESTON. Mr. Robert Astorino, director of the Louisville Housing Authority.

We are glad to have you with us.

Mr. ASTORINO. Glad to be here.

Mr. Chairman and staff of the committee, my name is Robert Astorino. For the past 4 years I have served as the administrator of the housing authority in the city of Louisville, Ky.

During this time, I have had the pleasure of knowing and working with the distinguished Senator from Kentucky, who is now chairing this hearing. I am here today testifying on behalf of the National Association of Housing and Redevelopment Officials, of which our authority in Louisville is a member.

Accompanying me is Mary Clute, who is our director of legislative services.

SUMMARY OF STATEMENT

I am aware of the short time that you have to receive testimony, so I would like to summarize my testimony. I have submitted a written statement for the record. I will be focusing primarily on our major concern, which is the adequacy of public housing operating subsidies proposed for fiscal year 1982 by the Reagan administration.

Our association does have other concerns; principally, community development block grants, UDAG's, and 312 loans, among others. These are outlined sufficiently in my written statement. I would urge you to give consideration and appropriate funding to the full amount authorized.

As I stated, the principal concern of NAHRO and over 2,800 public housing directors such as myself throughout this country is that the administration's request for public housing operating subsidies in fiscal year 1982 is simply inadequate, for reasons which I will state. We do not mean to appear to be critical of either the President or the Congress. We realize that this is a year of hard choices and that you will be called upon to make many during the months ahead, but we do want to advise you that we believe the calculations will not meet even the most basic needs of keeping our public housing programs on which over 3.4 million low-income people in this Nation depend for keeping their shelter operational during the years ahead.

First, the projection of rental income used in calculating the 1982 budget request is not substantiated and will be inadequate due to the consequence of other circumstances which will affect our low-income residents. As you are aware, many cuts have already been made and others proposed in programs which directly affect poor people, programs such as CETA jobs, medical assistance, welfare benefits and the like.

The loss of income benefits in these areas will result in reductions of tenant rents, since rents are calculated to be directly proportionate to net income under the present formula used by HUD.

The Senate Banking Committee's proposal to reduce assisted housing income from 80 percent of the area's immediate income to 50 percent will further aggravate this rent situation, since it will make all but the very poorest ineligible for the benefit programs and therefore insure that under the present system of rent calculation, only the most minimal levels of rent can be received.

RENTAL INCOME INSIGNIFICANT

Finally, projections of additional rental income, derived from an increase in the percentage of rent to be charged tenants in this program, as proposed by the administration, are so insignificant, particularly when implemented over a 5-year period as proposed, that they are hardly worth the effort to administer, and certainly not worth the anxiety which they will cause the already concerned poor of our Nation.

Senator, by our own estimates in Louisville, this proposal would actually yield a net loss in operating income to us during the first year of $108,000.

Second, in addition to our assertions that income projected for fiscal 1982 will not be sufficient, we would also point out that we are not yet over the fiscal crisis facing us in fiscal year 1981.

HUD is in the process of recomputing the fiscal year 1981 shortfall based upon information we have from our housing authorities. We estimate that the shortfall will be closer to $225 million than to the $140 million originally estimated by HUD. Therefore, the $100 million supplemental will barely be adequate to retain the 85.5 percent operating subsidy level which has been imposed upon us for fiscal year 1981 by HUD.

The balance of the shortfall of approximately $125 million must be included in fiscal year 1982 appropriations if we hope to avoid serious fiscal problems resulting from the 1981 shortfall's effects.

We urge the committee to request HUD to submit accurate, current data on the extent of the fiscal 1981 shortfall before making final decisions on fiscal 1982 appropriations.

UTILITY PROBLEMS COMPOUNDED BY UNDERESTIMATION

Third, the fiscal year 1981 underestimate will compound the utility problem for fiscal year 1982. If we recalculate actual costs for fiscal year 1982 utility costs, based upon an updated estimate of 1981, and using HUD's estimate of a 16-percent increase for fiscal year 1982, we are already facing a utility shortfall in the neighborhood of $132 million for fiscal year 1982 before we even begin it.

These adjustments bring us to a rock bottom $1.52 billion for the fiscal year 1982 funding requests.

This figure does not include $120 million which HUD calculated as necessary to adjust performance funding inflation factors and $100 million to establish an appeals fund for costs beyond their control.

If these system adjustments are added, the total for fiscal year 1982 need is brought up to a $1.74 million level. In summarizing these comments today, it is important for you to understand that assisted housing is a program of partnership between the local authority and the Federal Government. Certainly, such a partnership was envisoned when Congress enacted the Brook amendment over a decade ago to insure that public housing tenants would not pay disproportionate sums for their shelter.

At this time, however, there was some reasonable belief that local authorities would manage prudently and receive incentives for capable program administration, and that the Federal Government would provide, in the form of an operating subsidy, adequate financial support for well-managed programs.

Clearly, local authorities which no longer have control determining the adequacy of income that they receive have, by law, become dependent on their Federal partner to insure the efficient operation of these low-cost housing programs.

Unfortunately, this well-intended theoretical partnership has not been sustained in practice, and the reduction in operating subsidy levels by HUD this year is further evidence of my assertion.

LOUISVILLE AUTHORITY

Our local authority in Louisville has done its part in achieving and maintaining respectable levels of performance in our programs as evidenced by increased rent collection rates from 60 percent to near 100 percent over the last 3 years; reduction in our vacancy levels from 12 percent to 1 percent during the same time; and simultaneously increasing our level of operating reserve from almost bankruptcy to near 50 percent of the maximum allowable by HUD regulations. Despite our efforts, we find the health of our program seriously jeopardized by continuously inadequate and unrealistic levels of appropriations from our Federal partner.

In a period where Louisville's utility costs actually increased almost 20 percent it is a zenith of asininity to include that. Subsidy increases of only 12 percent to offset this cost cannot ultimately lead to anything but financial disaster.

Before concluding, Senator, I would like to say a word about the public housing modernization program, which I know you are very familiar with.

The figures which we cited earlier represent the bottom line of need. We did not take into account the modernization needs conservatively estimated by HUD at over 200,000 units nationally.

Modernization is a prudent investment, which will yield long- and short-term tangible effects in restoring unoccupied units with a bidable stake; in promoting energy conservation, which we are all very concerned with today; and in reducing maintenance costs, and thereby ultimately helping us to reduce subsidy need; and to insure a decent living environment for all our residents.

My written testimony adequately describes in HUD's own terms the extent of modernization needs nationwide. I would hope that the CIAP bill is funded at the full level provided, as recommended in the House bill.

I want to thank you for the opportunity to speak before you today. I would be glad to entertain any questions you may have.

[The statement follows:]

STATEMENT OF ROBERT ASTORINO, NATIONAL ASSOCIATION OF HOUSING AND REDEVELOPMENT OFFICIALS

Mr. Chairman and members of the Committee, my name is Robert Astorino. I am the Administrator of the Housing Authority of the City of Louisville, Kentucky. I am here today representing the National Association of Housing and Redevelopment Officials. Accompanying me is Mary Clute, Director of Legislative Services for NAHRO.

First, let me extend our appreciation for the actions this subcommittee took with regard to the fiscal year 1981 supplemental and recissions bill, most significantly in approving a $100 million supplemental appropriation for public housing operating subsidies and for retaining the Section 312 rehabilitation loan program. We appreciate your recognition of the critical importance of these programs in maintaining this nation's existing housing stock. As I am sure you are aware, the actual operating subsidy shortfall for fiscal year 1981 promises to be substantially greater than the $100 million appropriated, which means that the 1981 fiscal crisis is not yet behind us. I will be addressing this issue further, later in my testimony.

I recognize that you have a number of programs to consider and a number of witnesses to hear today, so I will keep my comments brief and will focus principally on those issues which NAHRO feels to be of paramount importance. I also recognize that you are constrained in your appropriation decisions by the actions taken by the Budget and authorizing committees, and will make my comments within that context.

NAHRO's number one concern and priority is the issue of public housing operating subsidies. However, I would like to comment briefly upon other issues before expanding upon the public housing matter.

It will not surprise you to know that we urge you to provide the maximum funding authorized for the community development block grant and Urban Development Action Grant programs.

Community Development Block Grant

One of the mainstays of local development efforts in recent years has been the Community Development Block Grant Program. Through this program localities have been able to make strides in stimulating private investment and economic development, rehabilitating their housing stocks, and revitalizing deteriorated neighborhoods. However, funding for this program has remained virtually constant over recent years with a program level of $3.65 billion in fiscal year

1979, $3.8 billion in 1980, $3.69 billion in 1981, and a proposed figure of $3.66 billion for fiscal year 1982. When adjusted for inflation, this represents a substantial decline in purchasing power and in the level of activities which can be undertaken.

This static funding level, combined with major funding reductions in other existing community and economic development programs such as EDA, the Section 701 planning program, Section 312 rehabilitation loans, and the low-income weatherization program, places tremendous pressures upon the community development block grant program. Attachment #1 to this statement shows a summary of the reductions in related areas as proposed by the President and helps to project the magnitude of the impact on CDBG. In order to get maximum mileage from these limited funds, we are hopeful that the Congress and the Administration will carefully review the recent recommendations of the GAO to increase geographic targeting and tighten eligible activities. We are also anxious that legislative changes which in our opinion further dilute the program not be enacted. For example, we oppose the Administration's proposal to turn the small cities program over to the State governments. We urge that funds be appropriated for this program to the full extent authorized.

Urban Development Action Grant

The UDAG program, authorized by the Congress in 1977, was intended to fill a gap in the CDBG program. While CDBG is well-suited to provide communities with a basic level of assured, on-going financial support for fundamental community and economic development activities, it was not designed to respond to unique, perhaps one-time opportunities to quickly capture and leverage significant private investment opportunities as they emerged on a project-oriented basis. Essential elements of the UDAG program are: (1) quick turn-around time--in some instances, as short as a six month time frame between conception of a project and completion; and (2) front-end, firm commitments of private investment money to carry through the project on a fast-trach schedule. Experience under UDAG has also demonstrated that individual UDAG grants are often substantially larger than CDBG grants. The average UDAG grant given to 34 small cities in February, 1981, was $1.67 million; this contrasts with the average CDBG grant to a small community in fiscal year 1979 (latest year available) of $428 thousand. The average UDAG grant given to 55 metropolitan cities and one large urban county in January, 1981, was $3.03 million; this contrasts with the average CDBG grant to a large entitlement community in fiscal year 1979 (latest year available) of

$2.1 million. Obviously, it is not possible for most communities to amass the kind of resources under their block grant programs necessary to undertake major economic development efforts of this type.

Since its inception, UDAG has achieved an impressive record of leveraging private investment in local economic development projects. Action grant projects that received approval during fiscal year 1980 (351 grants for a total of $646 million) will leverage $4.4 billion in private investment. Over 194,000 jobs are being created or retained by these approved projects. Of these jobs, 100,700 will be new permanent jobs created at an average cost of $7,700 per job. Local governments will receive a net incresae of $126 million in tax revenues from the 1980-approved UDAG projects. Over 21,000 housing units will be constructed or rehabilitated in those projects having housing components. We are concerned that this housing component not be lost from the program in revised legislative language, particularly in light of the reductions in other housing assistance programs.

Additionally, it should be remembered that most UDAG projects, particularly those funded most recently, contain provisions for repayment of the initial investment so that the funds can again be recycled in the community.

We are pleased tha the Banking Committee has endorsed the continuation of this program, and we urge that funds be appropriated to continue this program at the full amount authorized.

Section 312 Rehabilitation Loans

We are disappointed that the Section 312 Rehabilitation Loan Program is not being continued at its prior program level, but we are pleased that there has been an effort on the part of this subcommittee and the Banking Committee to keep the program alive at the loan repayment level.

The Section 312 Rehabilitation Loan Program has been used to rehabilitate over 100,000 homes in over 700 communities. It has been a unique and successful program which returns funds to the federal government as loan repayments are made. In fiscal year 1981, nearly one-third of the program funds are being provided from loan repayments.

The Section 312 program provides an opportunity to target limited resources to areas of greatest need and greatest capacity. For example, in 1981, over 75% of the program funds were allocated to 300 distressed cities. For many communities, particularly small communities, substantial rehabilitation programs would not be possible without assistance under the Section 312 program. Their community development funds are too limited and the demands upon that program too great to enable a concentrated and sustained rehabilitation effort.

The program procedures are straightforward; lead-time required is short and the expenditure rate is high. Central administration of the program obviates the need for each community to set up its own cadre of local servicing agents, and provide technical assistance to ensure quality rehabilitation programs. Because the program is funded on a discretionary basis, HUD has been able to use portions of the funds to develop innovative rehabilitation demonstrations in areas such as multifamily rehabilitation, neighborhood commercial revitalization, energy conservation and public/private cooperative agreements.

We urge this subcommittee to continue the Section 312 Rehabilitation Loan Program in fiscal year 1982. We would urge, however, that the sucommittee not adopt the language of the authorization committee to limit the use of these funds to multifamily and urban homesteading projects only. Our members are concerned that the program flexibility not be restricted in that manner. For some, it severely inhibits their ability to use the program as an effective neighborhood revitalization tool, because it addresses only a portion of the neighborhood need. For others, particularly smaller communities, it prevents them from using the program at all since their principal need is in the area of single family properties.

Assisted Housing Development Programs

Mr. Chairman, our national need for new housing remains acute, and the Senate authorized level is simply inadequate to meet that need.

Nationally, public housing authorities are still able to house only 13% of the qualified population. In Louisville alone, we have over 1,000 qualified families and elderly persons on our waiting list. Statistics from HUD's Annual Housing Survey show that, as of 1978, over 7 million households were still housed in substandard or overcrowded conditions; over 3 million households were paying more than 60% of their incomes for rent. As household formations, abandonments and conversions increase, the national rental vacancy rate has fallen below 5%. In Louisville, our vacancy rate is at 3.7%. Production of rental housing in the private market is almost non-existent. Short supply and low vacancy rates are putting tremendous inflationary pressures upon the existing housing stock. For some communities, the vacancy rate is so low that new production is the only alternative for meeting their housing need.

In assisted housing in recent years, unit allocations have dropped consistently from 542,000 units in 1976 to 338,000 units in 1978 to 264,000 units in 1980 to 175,000 units in 1982 under President Reagan's proposal. This is a far cry from our national goal of 600,000 units per year established in 1968. Meanwhile, the gap between affordable housing and individual income is widening.

We are aware of the prevalent concern over the high cost of producing assisted housing. We would welcome an opportunity to work with the Congress and the Administration in exploring ways to reduce housing costs and improve delivery systems. We believe that some of the proposals of the Administration and of the Senate Banking Committee to standardize and simplify the housing programs and to reduce costs are positive steps. We do, however, have concerns about certain of the provisions; most notably, the proposal to reduce income eligibility from 80% of area median income to 50%. We believe that this is counter-productive to cost cutting efforts and will undermine the social and management stability of assisted housing projects.

Despite the glaring need for new housing production, we are realists. We realize that this is a year of hard choices and, therefore, we are willing to give up some new production in order to meet the critical need to maintain our existing housing stock. We would, however, strongly oppose the imposition of a moratorium on all new housing assistance. As our experience of 1973 exemplifies, moratoriums of this nature can be devastating on the housing industry. Small developers who have traditionally relied upon the use of assisted housing can go out of business entirely. Some major developers will withdraw from future involvement with assisted programs because of their lack of predictability. Expertise in the field will be lost during this hiatus and have to be painfully rebuilt. We cannot allow our current housing programs to languish, while we deliberate alternatives, or we will continue to fall farther and farther behind in our goal of providing decent, safe and sanitary housing for all Americans.

We urge the subcommittee to provide continued funding for our assisted housing programs, even if it must be at a reduced level in the coming year.

Public Housing Operating Subsidies

Now, Let me turn to NAHRO's most critical concern...public housing operating subsidies. As you are, of course, aware HUD has informed public housing agencies that they will receive only 85.5% of their operating subsidy level for fiscal year 1981. It is our assessment that the Administration's request for fiscal year 1982 is so inadequate that we will again be placed in the same position next year.

I realize that the members of this Committee are very familiar with the public housing program, but I would like to review some of the current facts with you to underscore the serious financial situation we are in. At present, this nation has an investment of almost $20 billion in approximately 1.2 million units of public housing which provide shelter for over 3.4 million people. Public housing tenants, with a median income of $3,313 definitely represent the truly needy of this nation. About 46% of the public housing units are occupied by elderly persons; another 46% are occupied by female-headed families.

In recent years, the increase in public housing operating costs has far outstripped the increase in rental income. Between 1968 and 1978 operating costs increased over 300%, while rental income increased by less than 50%. Tenants' income have been increasing an average of 5% per year, while the inflation rate has been increasing in the neighborhood of 10% and more, and utility costs have been rising annually in the range of 20% to 30%. In 1980, public housing agencies spent an estimated $750 million for energy costs alone. These costs have increased more than 400% over the last decade.

Federal operating subsidies have not kept pace with this growing discrepancy between income and operating costs. As you know, operating subsidies for public housing agencies are determined under a multi-variate formula known as the Performance Funding System (PFS). Recent studies completed on this system indicate that it does not accurately reflect need and that it is particularly inadequate for the larger urban areas. Aggravating this already inadequate system are continuous underestimates of economic cost factors. These underestimations have been so severe that HUD estimated in 1980 that $200 million would be necessary to adjust the inflation factor alone to reflect real inflation increases.

For example, the 1980 inflation factor used for the PFS was 7.1% and the 1980 utilities factor was 12%, when in reality these increases were 13% and 25%, respectively. For 1981, an 8.7% inflation factor was used and an 8.8% utilities factor. Earlier this year, the Administration estimated that there would be a fiscal year 1981 shortfall of $165 million due to underestimation of the utility factor. However, they are currently reviewing cost data from the most recent quarter, and suspect that the shortfall could go as high as $225 million: an amount which is consistent with information we are receiving from housing authorities across the country.

Yet, despite this, the Administration has submitted a request for fiscal year 1982 which contains an inflation rate increase of only 8.7% and a utility rate increase of only 11.3%. They have reduced HUD's original estimate of need by over $400 million; and did not request funds to correct the shortfall for fiscal year 1981.

Mr. Chairman, Louisville is not in as desparate condition as some other housing authorities across the country. Through the freezing of vacant positions, deferral of capital equipment purchases, and other cost-saving measures, we are being able to make ends meet and to retain approximately 50% of our allowable reserves. However, if this persistent underfunding continues, we will soon join our colleagues.

Today, thirty-three housing authorities across the nation, that manage one-third of our public housing inventory, have depleted their reserves below 20% of the maximum allowable. Some of these have no reserve funds at all. They have cut services and laid off staff to dangerously low levels. There is simply no cushion to absorb this persistent underfunding any longer. Attached to this statement is a summary of responses received by NAHRO from public housing authorities across the country on the types of services cuts they are facing.

HUD's original estimate of need for public housing operating subsidies in fiscal year 1982, made approximately six months ago, was $1.641 billion. However, this did not take into account a number of other funding cuts proposed by the Reagan Administration which will significantly impact upon our public housing programs. For example, in Louisville, we estimate that we will lose $108,000 next year in rental income from cutbacks in federal income support to our tenants even with the increase in the percentage of the rental contribution. Additionally, we will lose half of our security force who are employed under the CETA program.

We recommend that HUD be directed to analyze the composite impact of these cuts on public housing agencies in order to provide an adequate funding forecast for the years to come.

To aggravate this situation, the Senate Banking Committee is proposing to reduce tenant income eligibility for assisted housing from 80% of median income to 50%. The Congressional Budget Office estimates that this policy will cost assisted housing operators approximately $1.6 billion in rental revenues by the end of fiscal year 1986. Yet, there are no proposals to provide offsetting increases in public housing operating subsidies. As stated earlier, we believe that this proposal to reduce income eligible is an unsound one, from management, social, and fiscal perspectives, and we are hopeful that it will be eliminated.

Mr. Chairman, if you will indulge me a bit further, I would like to outline for you NAHRO's most conservative estimate of the funding required in fiscal year 1982 for public housing operating subsidies.

The Administration requested $1.205 billion for fiscal year 1982. This includes an assumption that $60 million in additional income will be realized as the result of a 1% increase in the rent to income ratio in the coming year. Because of lease restrictions and the administrative lead-time required inhibiting immediate across-the-board implementation of this increase, only a fraction of this savings could be realized during the coming fiscal year. In addition, we anticipate that any such savings would be more than offset by reductions in tenant incomes as the result of reduced funding for welfare and other social programs , as outlined above.

As mentioned earlier, the Administration is currently reviewing actual cost data received from public housing agencies for the most recent quarter, ending April 30, 1981. We anticipate that the results of this review will show the fiscal year 1981 operating subsidy shortfall to be significantly higher than the Department's earlier estimate of $165 million, which was based upon an estimated 16% increase in utility rates. Actual cost data for the first quarter of this fiscal year showed utility rates increasing at the level of approximately 25%. Information we have received from public housing agencies across the country indicates that this percentage increase is likely to drop slightly, but not below an average of 23% for the year. Thus, the shortfall is likely to be closer to $225 million than $165 million; and the $100 million supplement recently approved by this subcommittee will be barely enough to keep housing authorities at the level of 85.5% funding established by HUD earlier this year. We strongly urge the subcommittee to direct the Department to provide updated, accurate projections of the actual fiscal year 1981 shortfall, and urge that funds for this purpose be included in the fiscal year 1982 appropriation.

A third problem with the Department's 1982 request is that, once again, it underestimates the utility factor. First, the Administration reduced HUD's estimate of a 16% increase for fiscal year 1982 to 11.3%. Secondly, this increase was based upon a 1981 estimate which is proving to be dramatically low. If recomputed to accommodate an actual 1981 rate of 23% and HUD's conservative estimate of 16%, an additional $132 million is required to cover basic utility costs in 1982. We must add, however, that we believe that HUD's 16% estimate will again prove to be unrealistically low. If a more realistic projection of 20% were used, the utility shortfall would be closer to $167 million.

Therefore, Mr. Chairman, these basic funding adjustments have already brought us to a level of $1.52 billion required for fiscal year 1982, as follows:

$1.205 billion	--	Administration request
.060	--	Anticipated rental income which will not be realized
.125	--	Balance of FY '81 utility shortfall
.132	--	FY '82 utility shortfall, adjusted for change in FY '81 and to reflect HUD's conservative 16% increase
$1.522		

This figure does not include $120 million determined by HUD to be necessary to adjust the inflation factor in the PFS base computations to a realistic level, and a $100 million appeals fund need to accommodate costs beyond control, such as unanticipated utility rate increases. These are adjustments to the system which have been recommended in an extensive study undertaken for HUD and OMB by Abt Associates, and long-advocated by NAHRO. Without these adjustments, we are making the conscious decision to continue the current, documented inadequacies of the system. With these system modifications, the total need for fiscal year 1982 is $1.74 billion.

Mr. Chairman, we understand that you are constrained by authorization levels. However, we are hopeful that the current Senate levels will be increased in conference with the House, which, at present, has $1.64 billion authorized in its subcommittee bill. We also feel that this matter is so urgent that it calls for extraordinary measures, if necessary. For example, last year funds were added to the Senate appropriations bill to cover a fiscal year 1980 operating subsidy shortfall even though these funds had not been authorized in prior legislation. The seriousness of the situation called for such action.

We also realize that you are constrained by overall budget limits which require each increase to be offset by some counter-balancing decrease. We would suggest that there are areas which are less critical than the public housing operating subsidies which could be tapped for this purpose. Most notably, the funds requested to convert public housing temporary notes to long-term obligations through the Federal Financing Bank are not critically required at this time. In fact, at a time when the federally taxable rate is at an all-time high, we believe that it is not even fiscally prudent to lock in 20-40-year obligations at such a rate.

Mr. Chairman, before taking final action on public housing operating subsidies, we urge you to require the Department to provide this subcommittee with adequate information on the true need for fiscal years 1981 and 1982. Secretary Pierce stated earlier in the year that he would be back with a supplemental request if public housing agencies were unsuccessful in securing adequate funding to meet the shortfall through the HHS low-income energy assistance program. I think that we have all known for some time that this was not a realistic alternative, and I know that the Secretary has been hearing from public housing authorities across the nation who have tried and failed in this effort. Yet we are still awaiting word from the Department. We would hope that such information and supplemental request could be provided in the immediate future.

Public Housing Modernization

Mr. Chairman, I would like to speak briefly to the public housing modernization program before concluding my statement.

As you know, last year the Congress initiated a new Comprehensive Improvement Assistance Program (CIAP) targeted toward the rehabilitation and modernization of the existing public housing stock and public housing management systems. The program involves a comprehensive approach to improving our public housing inventory over the course of the next five years, including bringing rehabilitated units up to energy efficient standards.

HUD estimates that, of the 1.2 million existing public housing units, about 90,000 of these would require major work averaging about $25,000 per unit; another 110,000 would require more modest work of about $8,500 per unit, totalling about $3 billion for all major renovation work. Another $1 billion would be required for basic maintenance and repair work on the remaining one million basically sound structures. Thus, for a relatively modest cost we could return approximately 200,000 substandard units to decent, safe, sanitary, and energy efficient conditions; and bring all public housing units into good repair. Without this modernization assistance, we stand to permanently lose many of these units, particularly those 90,000 in worst condition. It would cost $65 billion to replace our public housing stock today. The new Administration has been most conscientious in their efforts to get this program moving. Preliminary applications from public housing authorities are due the middle of this month. While we recognize that this subcommittee endorsed the Administration's request for a recission of $300 million in budget authority for fiscal year 1981 based upon a concern that the funds could not be spent by the end of the fiscal year, we do not believe that this argument is valid for fiscal year 1982. We believe that it is highly important that the CIAP program be funded at the full $2 billion level, as provided in the House Subcommittee bill. The longer we delay these improvements, the more costs will increase with inflation. In addition, the level of improvements required will be greater, the longer we permit the units to deteriorate.

Furthermore, the sooner the modernization work can be completed, the sooner operating costs can be reduced. A recent study completed for HUD indicates that an expenditure of $1,350 per unit for energy conservation measures would result in an annual savings of $325 per units, for a payback period on the initial investment of a little over four years. Using these figures, if all public housing units were brought to energy efficient standards, annual operating subsidies could be reduced by almost $400 million per year, at today's prices. The dollar savings would increase as prices rise. In our assessment, it is simply unwise to defer such improvements, when the future savings are so significant.

In conclusion, Mr. Chairman and members of the Committee, I would like to thank you for this opportunity to appear before you today. I would be pleased to respond to any questions you might have.

"ATTACHMENT 1"

BUDGET SUMMARY FOR COMMUNITY, ECONOMIC DEVELOPMENT ACTIVITIES

	FY 1981 (in millions of dollars)		FY 1982	
Current Program	Current Appropriation	After Reagan's Recision	Carter's Proposed	Reagan's Proposed
HUD				
Community Development Block Grant	3,694	3,694	3,960	4,166
Urban Development Action Grant	675	675	675	0
Section 312 Rehab Loan	129	19	134	0
Section 701 Planning Grant	34	0	35	0
Neighborhood Self-Help Grant	9	.8	9	0
Solar Energy and Energy Conservation Bank	121	0	127	0
Subtotal, CD	4,662	4,388.8	4,940	4.166
EDA:				
Title I: Public Works & Development Grants	350.4	128	350.4	0
Business Development Loans				
Direct	116.4	61.5	116.4	0
Loan Guarantee Authority	425.0	163	425	0
Title III: Technical Assistance	45.6	23.2	45.1	0
Economic Development Planning	39.6	10.8	40.1	0
Title IX: Special Adjustment Assist.	36.2	24.4	36.2	0
App chian Regional Commission	339.4	219.4	343	0
Subtotal, EDA	1,352.6	630.3	1,356.2	0
National Consumer Coop Bank	124.7	60	128	0
CSA:				
Community Action	394.4	394.4	409	0
Community Economic Development	50	50	44.5	0
State Agency Assistance	3.75	3.75	3	0
Subtotal, CSA	448.15	448.15	456.5	0*
CETA:				
Public Service Employment	2,924	2,445	3.956	0
General Employment and Training/ Youth	3,832	3,832	3,758	2,294
Subtotal, CETA	6,756	6,277	7,714	2,294
SBA:				
Section 7A: Direct Loans	209	179	216	165
Loan Guarantees	3,700	3,006	3,700	2,775
Section 501,502,503 Development Company Loan Program Direct Loans	6	0	0	0
Section 503 Loan Guarantees	200	163	200	150
Subtotal, SBA:	4,115	3,348	4,116	3,090
TOTAL	17,428.45	15,152.25	18,710.7	9,550

*Funding to be available from HHS Social Services Block Grant - 25% reduction

Reduction in 1982 Carter to Reagan Community and Economic Development: 49% reduction.
Overall reduction in grants to state and local government: 26% reduction
(all budget authority functions) 1982

"ATTACHMENT 2"

NAHRO LARGE HOUSING AUTHORITY SURVEY

In the spring of 1981, NAHRO conducted a survey of large housing authorities to determine the status of their fiscal, management and maintenance operations. The discussion that follows is the result of this effort and includes 22 PHAs managing more than 30% of the total federally assisted public housing units.

Whereas a few large housing authorities have shown an improvement in their fiscal condition in the past year, the vast majority are worse off in 1981; some significantly so. Fully three quarters, 17 of the 22 surveyed PHAs, are now operating at a deficit or are anticipating a deficit in their FY81 budgets. Five of these PHAs were forced into a deficit position this year, and these deficits ranged from $100,000 to more than $3,000,000. The percentage increase in operating deficits between 1980 and 1981 for the remaining 12 large housing authorities ranged from 100% to 1,000% and more. One large PHA is experiencing a 12,000% increase between '80 and '81. The operating deficits range from 1% to 50% of PHA's budgets. The total 1981 deficits alone exceed $87,000,000.

For all of the surveyed large housing authorities, the effect of shortfunding PHA budgets (the recent cut to 85.5% funding of PFS eligibility) will have a devastating impact in terms of job reductions, budget reductions and service reductions. Examples include:

Atlanta

Jobs Lost: 134 Administrative Employees
117 Maintenance Employees

251 Total

Budget Reductions:	Administration	$821,547
	Tenant Services	247,909
	Protective Services	32,851
	Ordinary Maintenance and Operation	1,245,313
	Non-routine Expenses	401,356

Including equipment, repairing vandalized units, gutters, downspouts, exterior lighting

New York

Jobs Lost: Staff reductions will be achieved through attrition unless utility shortfall is not restored. If not, layoffs may be necessary toward the end of 1981.

Budget Reductions:	Administration	$2,800,000
	Tenant Services, Utilities	1,000,000
	Ordinary Maintenance and Operation	10,500,000
	Non-Routine Expenses	4,500,000

Services to be Reduced: Electrical, plastering, painting, plumbing, carpentry, roo dwelling equipment; e.g., ranges and refrigerators

Baltimore

Jobs Lost:

53	Administration
7	Tenant Services
1	Utilities Labor
121	Maintenance
182	Total

Budget Reductions:

Administration	$1,100,000
Tenant Services	150,000
Utilities	15,000
Protection Services	11,800
Ordinary Maintenance and Operation	2,040,870
Non-Routine Expenses	421,391
General Expenses	356,159

Services to be Reduced: Electrical, plastering, painting, plumbing, carpentry, roofing, dwelling equipment, e.g., ranges, refrigerators

Louisville

Jobs Lost: None at present

Budget Reductions:

Administration	$392,012
Tenant Services	2,000
Ordinary Maintenance and Operation	148,890
Non-Routine Expenses	137,000

Services to be Reduced: Electrical, plastering, painting, plumbing, carpentry, roofing, dwelling equipment; e.g., ranges and refrigerators and ground maintenance

St. Louis

Jobs Lost: None at present

Budget Reductions:

Administration	$100,000
Tenant Services	15,000
Protective Services	450,000
Ordinary Maintenance and Operation	275,000
Non-Routine Expenses	60,000
Employee Benefits	50,000

Services to be Reduced: Painting, dwelling equipment, e.g., ranges and refrigerators

St. Paul

Jobs Lost: None at present

Budget Reductions:

Administration	$22,000
Tenant Services	10,000
Ordinary Maintenance and Operation	43,000
Non-Routine Expenses	363,000

(including exterior painting, roof repair, parking lot repairs and equipment)

Services to be Reduced: Painting, carpentry, roofing, dwelling equipment; e.g., ranges and refrigerators

Over half of the surveyed PHAs will draw down on their reserves in 1981 in order to cover operating expenses. At the currently projected 85.5% funding level, five of those large PHAs have or will have totally depleted their operating reserves in FY 1981. Of the remaining 17, 6 more have or will have less than half of HUD's maximum allowable reserves; 10 of the 17 had lower reserve levels in FY 1981 than in FY 1980.

Seventeen of the 22 PHAs were faced with salary and wage increases this year that were either mandated by federal and/or local wage requirements, or that resulted from newly negotiated union contracts. The vast majority of these PHAs fought to keep these costs under control as the salary and wage increases were at or less than the 13% annual average inflation rate at more than three-quarters of the PHAs responding.

Utility rates for every source of energy used by public housing authorities increased significantly over the past year. Large public housing authorities experienced:

--Oil price increases of 3% to 36%
--Gas for heating increases of 20% to 60%
--Gas for cooking increases of 15% to 55%
--Electricity cost increases of 8% to 67%

The large housing authority survey indicated that while public housing waiting lists increased by a mean of 28.5% over the past year, the annual move-outs between 1979 and 1980 remained roughly the same.

CURRENT ESTIMATE OF UTILITY COSTS

Senator HUDDLESTON. Does NAHRO have a current estimate on what would be needed to fully fund the utility costs under the performance funding system for 1981 and 1982?

Mr. ASTORINO. I think we said that we need at least an additional $1.25 million this year and next year's level of funding would be about $1.7 billion.

Senator HUDDLESTON. What has been your experience at Louisville, as far as the operating subsidy is concerned?

Mr. ASTORINO. The level of appropriation that has come out of HUD today has been woefully inadequate to meet even realistically what are the costs of operation, that we can document from actual experience.

As stated in the testimony, when we receive a 12-percent figure to adjust utilities and utilities have actually gone up 20 percent, we have actually experienced an 8-percent loss. That is certainly a disincentive to manage the program effectively.

Senator HUDDLESTON. What has been your experience in attempting to secure additional revenues from tenants?

Mr. ASTORINO. Our experience in attempting to secure additional revenues has been very ineffective. We find that in Louisville's program, the very poorest tenants seem to apply for residency in the program. We are limited by law in what we can charge in rents, as you are aware. We end up, basically, charging a minimal percentage of a minimal amount in deriving a minimal rent.

I think it is probably an erroneous assumption to think that we will derive major increases from any kind of percentage in rent increase calculations.

As pointed out in the testimony, citing Louisville's example, even an increase of up to 30 percent, as proposed by the administration—which in my opinion would heavily tax the poor—would yield us a net loss in revenue, because there would be an offset by a reduction in welfare benefits. So we are actually worse off, as a net result of these two administration proposals, than we would be right now.

Senator HUDDLESTON. Even if it were effective, how would the 5-year phase-in feature work? Would that tend to reduce its effectiveness or its usefulness as far as meeting the problem, either immediately or in the long run?

Mr. ASTORINO. I think two things have happened: This is only my opinion based on my experience. No. 1, I think administratively, the program would, frankly, be more trouble than it is worth to put in place; No. 2, I think it would raise anxiety levels of residents so much that you might have even further difficulty in administering your program.

You might have further bad relations transferred out to your residents. Again, that is only my opinion, but that is based on the experience we have seen in our program so far.

Senator HUDDLESTON. You mentioned the loss of CETA and other income support for tenants. Are there any offsetting factors that come into play here?

Mr. ASTORINO. We certainly haven't seen any. What we are seeing is less public housing resident employment than we have seen in past years. I think if there were any offset to be seen, it might be seen in some change in HUD regulations on rent computations giving incentives for people to hold jobs. But even these aren't forthcoming. It is really one disincentive after another to the resident who wants to work. There are fewer jobs this year than there have been in past years.

Senator HUDDLESTON. Thank you very much.

Mr. ASTORINO. Thank you, sir.

STATEMENT OF ROBERT L. WALDO, PRESIDENT, MORTGAGE INSURANCE COMPANIES OF AMERICA

HIGHLIGHTS OF STATEMENT

Senator HUDDLESTON. Our next witness is Mr. Robert L. Waldo, president of the Mortgage Insurance Companies of America. Mr. Waldo?

Mr. Waldo, you may proceed.

Mr. WALDO. Mr. Chairman, my name is Robert Waldo. I am president of the Mortgage Insurance Companies of America and Verex Assurance, one of its insurance companies, which is headquartered in Madison, Wis.

Our full statement was submitted on May 27 as requested. I will spend my time highlighting that statement.

Senator HUDDLESTON. Thank you.

Mr. WALDO. MICA supports the administration's proposed $35 billion ceiling on the insuring authority of the FHA because we believe that the unrestrained use of Federal credit guarantees contributes significantly to inflation.

We believe this cap will have no adverse effect on housing or on home buyers for three reasons: First, the private mortgage insurance industry serves the same market as is served by the FHA's unsubsidized home insurance programs; second, the private sector has the capacity to pick up the FHA's unsubsidized business and meet those service needs; and third, the proposed cap is almost double the amount of the total commitments the FHA could expect to issue in 1981 and in 1982 and more than double the insurance it will likely write; therefore, no real constraints should be imposed on its business activity.

PHASEOUT OF HOME INSURANCE PROGRAMS

All of these arguments are documented in our prepared statement. In conjunction with our support of the administration's proposal, we have also urged the gradual phaseout of the FHA's unsubsidized home insurance programs.

I would like to spend my allotted time on that issue.

During the 1980's, the Nation will experience an historic high demand for housing, just at a time when savings accumulated at the thrift institutions—which has been the traditional source of capital for housing—have been seriously disrupted. In the coming years, home financing will depend on the secondary markets or the nontraditional investors as it never has before. The arguments for not capping the FHA have pointed out that FHA loans have been marketable through GNMA passthrough certificates, which can be fed into the capital systems in relatively small increments without SEC regulation. We recognize that.

Up until this time, there has been no need for such a conventional mortgage vehicle. But there is now. We have urged support to allow a vehicle for conventional loans the same easy access to the capital markets. At least three such vehicles are now in the advanced planning stage, as we discuss in our full statement. We know that conventional loans are attractive to nontraditional investors in the general capital markets because the industry has already marketed about $6 billion of conventional passthrough certificates.

All of these have been in private placements which are relatively negligible as against public offerings.

However, for these new instruments to be completely effective, and to compete successfully against GNMA, there must be a clear signal somehow that the FHA 100 percent full-faith backing and uncredited guarantees of unsubsidized home loans will be phased out at a time certain, so that attention is focused on developing these nongovernment alternatives, otherwise, investors will gravitate to the security offered by the 100-percent Federal guarantee.

In the next 5 years, it has been estimated that mortgage demand will exceed $1½ trillion. That is an average of about $300 billion per year.

As much as one-third of that amount, or perhaps even more, may need to be funded by the general capital market. The private mortgage insurance industry has, or can generate the capacity to provide all the credit guarantees that are necessary to get the full developments to this command. We support a strong and viable FHA; however, we believe the FHA should function in subsidy programs which Congress has seen fit to enact, also to help persons to impose credit risks that cannot be guaranteed by the private sector.

That is the appropriate function of Government. Government should not be competing head to head with private certificate buys.

Before I conclude, Mr. Chairman, I would like to take just one additional moment or two to correct one fairly glaring error that was contained in the testimony of the Mortgage Bankers Association that was presented this morning. It was in the prepared statement at the bottom of page 8 and the top of page 9, where it is said that the $834 million of the mortgage insurers' contingency reserves are tax free and have been accumulated without tax burden. This simply is not so. The mortgage insurance company has the option of either paying the tax on the amount that it allocates to contingency reserves or of deferring the tax by purchasing a 10-year non-interest-bearing Treasury bond. Either way, the Government gets its collection right up front, so there is no tax burden imposed by the accumulation of this contingency reserve.

It just happens that my company pays tax. That is the preferable way for us to go. But if we were to defer the tax by purchasing bonds, we would still disburse our money as the contingency reserve is accumulated.

That concludes my summary, Mr. Chairman. I would be glad to answer any questions that you may have.

Senator HUDDLESTON. Thank you very much, Mr. Waldo, we appreciate your testimony.

[The statement follows:]

STATEMENT OF ROBERT L. WALDO, PRESIDENT, MORTGAGE INSURANCE COMPANIES OF AMERICA

My name is Robert L. Waldo, and I appear here today as President of the Mortgage Insurance Companies of America* (MICA).

The purpose of this testimony is two-fold:

(1) To support the Administration's request for a $35 billion ceiling on the mortgage insurance authority of the Federal Housing Administration, and

(2) To submit evidence that the time is propitious for the Congress to signal, through approval of a $35 billion ceiling, a gradual phase-out of that portion of FHA's activity which competes with private enterprise.

Concern that the Administration's recommendations will have a negative impact on housing is groundless. The Administration's proposed level for the insuring authority for FY 82 of $35 billion will be more than adequate for FHA operations. According to a HUD release dated March 20, 1981, the FHA insured $14.8 billion of mortgages on 1- to 4-family homes during the calendar year 1980. Commitments on these unsubsidized home mortgages was $20.8 billion or $14.2 billion below the Administration's ceiling. Assuming that about 20% - a generous allocation - of the ceiling would take care of Title I, rental housing, and mobile homes, this would still leave a $7.2 billion safety factor for the single-family unsubsidized programs. Furthermore, the FHA's volume in the first quarter of 1981 was 52% below the comprable quarter in 1980.

Our testimony will suggest a future role of the FHA with respect to home financing. First, a few facts about our industry. There are presently fifteen private mortgage insurance companies in all fifty states actively engaged in business, and private mortgage insurance is also written in the District of Columbia, Puerto Rico, and Guam. (See appendix 1 for data re these MICs) These companies function through approximately 270 regional underwriting offices. No state is served by less than five companies and twenty-five states are served by nine or more.

In the unlikely event that the ceiling is reached, the private mortgage insurance industry has ample unused insurance authority that could easily absorb any shortfall. Appendix 3 to this testimony will explain in greater detail how the insurance capacity is computed.

Ours is a highly competitive industry. Our assets aggregate in excess of $1.7 billion, and financial solidity is based on a contingency reserve which, on an aggregated basis at December 31, 1980, equalled $834 million. These reserves are accumulated by contributions of 50% of every earned premium dollar into a ten year reserve which cannot be withdrawn without the approval of the state regulator and then only if losses exceed 35% of earned premiums.

The risk characteristics of loans insured under the FHA unsubsidized program and loans insured by an MIC are very similar. However, unlike the FHA, we do not insure 100% of a loan. Instead, we insure the risk portion; that is, the top 20% of a 90% mortgage and 25% of a 95% mortgage. Our experience over the past two decades proves that this level of insurance is adequate for protection of both the originator and the secondary market investor.

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* The Mortgage Insurance Companies of America is a trade association consisting of thirteen domestic private mortgage insurance companies whose insurance-in-force on April 30, 1981, was $109 billion. The national officers of the Association are: Robert L. Waldo (President, Verex Assurance, Inc.), Madison, Wisconsin, President; Leon T. Kendall (President, Mortgage Guaranty Insurance Corporation), Milwaukee, Wisconsin, Vice President; William A. Simpson (President, Republic Mortgage Insurance Company), Winston-Salem, North Carolina, Secretary; Jackson W. Goss (President, Investors Mortgage Insurance Company), Boston, Massachusetts, Treasurer; and John C. Williamson, Washington, D.C., Executive Vice President.

While premium plans vary among the companies, a popular premium plan involves ½ of 1% for the first year of a 90% loan and 1% on a 95% loan, with the premium on all loans for the second and subsequent years being ¼ of 1% on the declining balance, whether the loan is 90% or 95%. While mortgage insurers are bound to renew these policies annually, the lender may cancel the insurance at any time. Generally, the insurance is cancelled when the principal balance reaches 80% of original appraised value. The FHA mortgage insurance premium is ½ of 1% for each year and the insurance must be maintained over the life of the loan.

However, I am certain that the Subcommittee wants to look behind this record to ascertain the market which we serve and how it compares with that served by the FHA's unsubsidized programs. A comparison follows, based upon 1980 data, to show current performance between the insuring activities of private mortgage insurers and the basic FHA 203(b) program.

During 1980, 35.5% of our insurance involved 95% loans. The FHA 203 program in that year involved 15% of loans with a 5% downpayment and 22% of loans with 4% to 3% down. The average downpayment for our industry was 12%; for FHA section 203, 11%.

In the fourth quarter 1980, 56% of the mortgages we insured were less than $50,000. FHA statistics break at the $51,000 level. In that quarter, 67.5% of section 203(b) mortgages were less than this amount. Our average mortgage in 1980 was $48,560; the FHA's, $42,083. In comparing averages, the Subcommittee should bear in mind that in 1980 the FHA was subject to a $67,500 mortgage ceiling, while private insurers were subject to no ceiling. If we were to eliminate all privately insured mortgages in excess of $67,500, we would discover that our average mortgage is less than that of the FHA.

For example, my company, Verex Assurance, Inc., processed 61,928 loans in 1980 and 85%, a full 52,946, of these were less than the FHA limit of $67,500. The average of these mortgages was $40,708, 3% less than the average FHA 203 mortgage. While comparing averages is meaningful, the Subcommittee can see the entire statistical distribution of borrowers served by FHA and private insurers by income levels in appendix 2.

Approximately 70% of our industry's mortgages are on existing homes. With respect to new construction, in 1980 the FHA 203 and 245 GPM programs contributed to 57,985 new starts, 6.8% of the total single family starts for that year. Our industry contributed to 121,520 new starts or 14.26% of the total.

With respect to credit underwriting standards, ours are not materially different from those the FHA applies to its unsubsidized programs, which are claimed to be actuarially sound. For example, we qualify a family if housing expenses do not exceed 33% of gross income; the FHA uses 35% of net effective income, or income after taxes. While the results of applying a pretax or after tax formula might be significant in individual cases, generally, there is little, if any, difference in the family income requirements to purchase a home under either program.

Invariably, in the dialogue on the issues raised by a probable phase-out of the FHA's unsubsidized home mortgage insurance programs, the question emerges as to the extent private insurers serve the urban areas. In 1980, 35% of privately insured mortgages involved homes located in urban areas, 57% in the suburbs and the balance in either rural or resort areas. Under the FHA section 203 program, using HUD's own statistics, in 1980, 56% were located in the urban areas, 42% in suburbs, and 2% rural. However, definition of "urban areas" are not consistent and "urban areas" can be so diverse economically that it is difficult to draw a valid comparison.

We noted that HUD breaks the urban statistics into "core city" and "other urban". In the core city, we note that the FHA's volume here was 2% of total insurance. Unfortunately, I cannot at this time give you comparable statistics from the private industry. I can tell you, however, that the private industry has been active in assisting neighborhood housing service corporations. For example, our industry insured 6,857 mortgages in the revitalization of the Philadelphia urban areas where the loans averaged $17,500 in 1976 to $22,500 in 1980. We were advised by lenders of this Philadelphia Plan that the FHA was only minimally involved.

Private insurers have not penetrated the low income market to any appreciable degree, but neither has the FHA. For example, in 1980, 2.22% of the mortgages we insured involved families earning less than $12,000 a year. The FHA 203 program, which breaks at $11,000, shows 4/5 of 1% penetration of this low income group using the mortgagor's claimed income which is closest to the "gross income" which we use. These figures, I submit, are not an indictment of either the FHA's unsubsidized program or the private mortgage insurance business. Rather, it is an indication that, due to today's home affordability problem, loans to borrowers below certain income levels cannot be prudently insured in an actuarially sound program. Insured loans for these borrowers can only realistically be provided through a subsidy program which reflects Congressional policy as to application of resources to be devoted to subsidies. However, these facts rebut arguments that the FHA unsubsidized programs, not private mortgage insurers, serve low income families.

All available data demonstrate that the private mortgage insurance industry and the FHA unsubsidized programs serve essentially the same market. We believe, therefore, based on the capacity we have built since the inception of the industry twenty-four years ago, there is now ample justification for consideration of a phase-out of FHA's unsubsidized role. Our industry was created on the experience of the FHA, and our success is a testimonial to the contribution made by this agency since its inception 47 years ago.

It is particularly necessary that the coming phase-out be signaled at this time, because in recent years the FHA has been overly protective of its share of the market. Its missionary work among our traditional customers - the savings and loan associations and banks - is a case in point. The FHA coinsurance program was created in 1974. In recent years, HUD has sponsored clinics with S&Ls and banks to encourage their use of FHA, even though there is no demand for insurance by these groups which is not met by private mortgage insurers.

In addition, the FHA offers a premium rebate to the lender based on default experience. This rebate need not be passed on to the borrower who pays the insurance premium. If a private mortgage insurance company offered such a rebate to the lender, it would risk losing its insurance license as well as losing its "qualified" status with FNMA and FHLMC. In late 1980, to overcome lender inhibitions to the use of the coinsurance program, HUD proposed two regulatory changes: (1) permitting the lender to insure its 10% exposure, presumably with a private mortgage insurance company; and (2) permitting the lender to pocket 10% of the premium as collected instead of crediting this to a five year reserve with disbursement after determining losses on the coinsurance portfolio. These regulations were shelved by the HUD Secretary because they involved policy matters requiring further study.

The competitive thrust of the FHA coinsurance program has not been successful. In 1980, the program represented only 1.7% of FHA's total unsubsidized home mortgage insurance activity. However, the FHA coinsurance program and the efforts of HUD to promote it with our traditional customers are ample evidence that HUD deems the FHA to be more than a demand oriented program.

Earlier I stated that our industry has the capacity to absorb the unsubsidized FHA market, and I would like to expand on that point with specific data. In 1979, this industry's unused insurance capacity was $36.8 billion. If the FHA had insured no mortgages that year in its unsubsidized mortgage programs, our industry could have absorbed this market and had $16 billion of unused authority remaining. As of December 31, 1980, our unused insurance capacity was $47 billion. I am attaching, as an appendix 3 to this statement, a table showing how the industry insuring capacity is computed.

Finally, we want to address ourselves to the role of our industry vis-a'-vis the FHA in the secondary market. It is asserted that only through FHA and GNMA can non-traditional sources of mortgage money be tapped for the homebuying market.

GNMA is unquestionably tapping non-traditional capital sources, however, several points should be noted. First, GNMA certificates can be publicly offered to investors with no SEC registration. If conventional loans could be packaged and marketed with the same regulatory ease as GNMA pools, it would enhance their penetration of the capital market. Remember that there have been approximately $38 billion of conventional loans purchased in the secondary mortgage market, demonstrating that investors have accepted the conventional loan as an investment. This suggests a tremendous potential for conventional loans if their liquidity is improved.

Both FNMA and FHLMC are readying proposals for guaranteeing conventional pass-throughs, each of which could surpass GNMA's volume of government guaranteed pass-throughs. FNMA is expected to come on stream before the end of the year, while FHLMC's will probably require amendments to its charter. The securities of FNMA and FHLMC have already gained investors acceptance; and they can produce conventional pass-throughs that will be marketable without the utilization of a 200% full faith backing for which the government is liable in the GNMA program. Also, these secondary agencies encourage access by all types of financial institutions, so all mortgage originators will obtain the market assistance that has been available through GNMA. Private conduits also will become more active. What is needed for a viable secondary market to tap new sources of capital is not government insurance; but simply the right conventional vehicle.

It is also argued that the FHA is available throughout the business cycle and therefore must be maintained without any cap, as a contracyclical device. This is not a valid argument. Every month for several years, with the exception of the first two months of 1980 when FHA reaped the benefit of its exemption from state usury laws, private mortgage insurers have insured more mortgages than the FHA. Even during the 1974 recession our industry insured more home mortgages than the FHA; and in recent months, when all mortgage markets have been in disarray, our industry each month insured almost double the mortgages insured by the FHA's unsubsidized home mortgage program. In January and February, 1981, for example, we insured 56,395 loans while the FHA insured 32,542 loans. Comparing the volume for these same two months in 1980, the FHA volume decreased by about 57%, while our volume actually increased by about 4%. When you look at individuals who obtain loans during periods of high interest rates, lower income groups are affected whether they attempt to obtain borrowing through an unsubsidized FHA loan or an insured conventional loan. Housing and homeownership suffers across the board during adverse economic cycles.

It is alleged that as the residential mortgage market deteriorates, lenders pull back and reduce their volumes of high-ratio loans suggesting FHA is able to serve more first time homebuyers and others needing low downpayment terms in such periods. Yet in 1980, we continued to insure 15% or more of all mortgage originations, consistent with our experience of the past five years, and significantly, 35.5% of the mortgages we insured represented 5% downpayments, the highest percentage of such 5% downpayment loans in the entire decade of the '70s.

In closing, I want to assure the Subcommittee that the private mortgage insurance industry, while barely 25 years old, is financially sound and reliable. It achieved its financial strength despite economic adversities which affected the housing and home finance industries -- and, therefore, the private mortgage insurance industry -- in 7 of its 25 years; and it has done so while providing a public service to over 3 million home buyers at a cost less than that required in the comparable government program. We attribute much of our success to the FHA which paved the way for our industry. We are now in essence, fifteen private state-regulated FHAs. We serve substantially the same market. We are tax paying entities, and if we sustain catastrophic losses, our stockholders, no the Federal taxpayers, will assume the loss. We will concede that so long as we have no economic catastrophe, the FHA unsubsidized programs do not cost the taxpayers any money, but that does not justify a government competing with private enterprise for the same market with essentially the same product.

We also concede that loans with a 100% Federal guarantee will remain preferable to some investors over privately insured loans where only the risk portion - the top 20% or 25% - is covered. However, we believe that 100% Federal guarantee should be used sparingly, to serve areas of the market which private enterprise, for economic reasons, cannot serve adequately. There ought to be quid pro quo for 100% Federal guarantee. This was the situation in 1934 when the FHA was created and it justifies FHA's role in the '40s, '50s, and the '60s. However, the situation is vastly different in 1981. What compelling social objective is being accomplished today by the FHA which is not performed by private enterprise, to justify the continued intervention of the Federal government with a 100% guarantee? We are now doing the job and we ask only that the FHA redirect or limit its activities to other needy areas such as rental housing, subsidy programs, and programs such as section 223(e) and 237 - which are obligations of the Special Risk Insurance Fund.

We believe that a gradual phase-out of FHA's competitive activity with a simultaneous reduction in GNMA authority will avoid the crowding-out phenomenon when government and non-government securities seek to tap the same reservoir of capital. Again, this phase-out would not be reflected until the fiscal year beginning October 1, 1982. We have no reason to doubt the HUD Secretary's statement that the $35 billion cap for FHA for fiscal year 1982 is adequate to meet the agency's projected needs.

There is substantial support for actions which affect all economic sectors and slow inflation by restoring monetary and fiscal stability. Financial institutions which provide housing funds, as well as the bulk of those firms building and selling homes, understand that a slowing of inflation and a drop in interest rates will bring the greatest benefits to housing. As an industry whose business is directly dependent upon the health of the housing industry and the growth of housing credit for all consumers, MICA believes it imperative to substantially dampen inflation in order to restore our nation's economic health.

We thank the Subcommittee for this opportunity to present our views and will be happy to respond to any questions that the Subcommittee may have.

APPENDIX 1

Tabulation of Private Mortgage Insurance Companies

December 31, 1980

Name	Assets	Continency Reserve[1]	Number of States Licensed and Writing Insurance	Year of Initial State Certification	Holding Company Parent
American Mortgage Insurance Company	$110,750,793	$ 59,425,901	45	1961	Merrill Lynch
Commercial Credit Mortgage Insurance Co.	$ 12,562,567	$ 1,832,813	35	1974	Commercial Credit
Commonwealth Mortgage Assurance Company	$ 12,177,167	$ 1,239,554	35	1976	Commonwealth Title Co.
Foremost Guaranty Corporation	$ 29,245,542	$ 7,782,452	47	1972	Foremost Insurance Co.
General Electric Mortgage Insurance Company	$ 25,997,773	$ 3,069	24	1980	General Electric
Home Guaranty Insurance Corporation	$ 8,177,954	$ 2,141,761	10	1972	
Integon Mortgage Guaranty Corporation	$ 6,848,606	$ 1,137,171	25	1972	Ashland Oil
Investors Mortgage Insurance Company	$ 97,548,560	$ 60,962,879	50	1968	Continental Financial Services, Inc.
Mortgage Guaranty Insurance Corporation	$734,272,523	$396,354,145	50	1956	
PMI Mortgage Insurance Co.	$121,548,778	$ 46,294,845	50	1972	All-State Insurance Co.
Pennsylvania Mortgage Insurance Company	$ 10,287,103	$ 1,467,604	20	1974	Pennsylvania Thrift Services Corporation
Republic Mortgage Insurance Company	$ 37,792,888	$ 12,402,374	28	1972	Old Republic International Corp.
Ticor Mortgage Insurance Company	$147,013,610	$ 54,700,268	50	1972	Southern Pacific
United Guaranty Corporation	$157,930,859	$ 89,549,662	50	1962	
Verex Assurance Inc.[2]	$180,073,647	$ 99,754,579	50	1961	Greyhound

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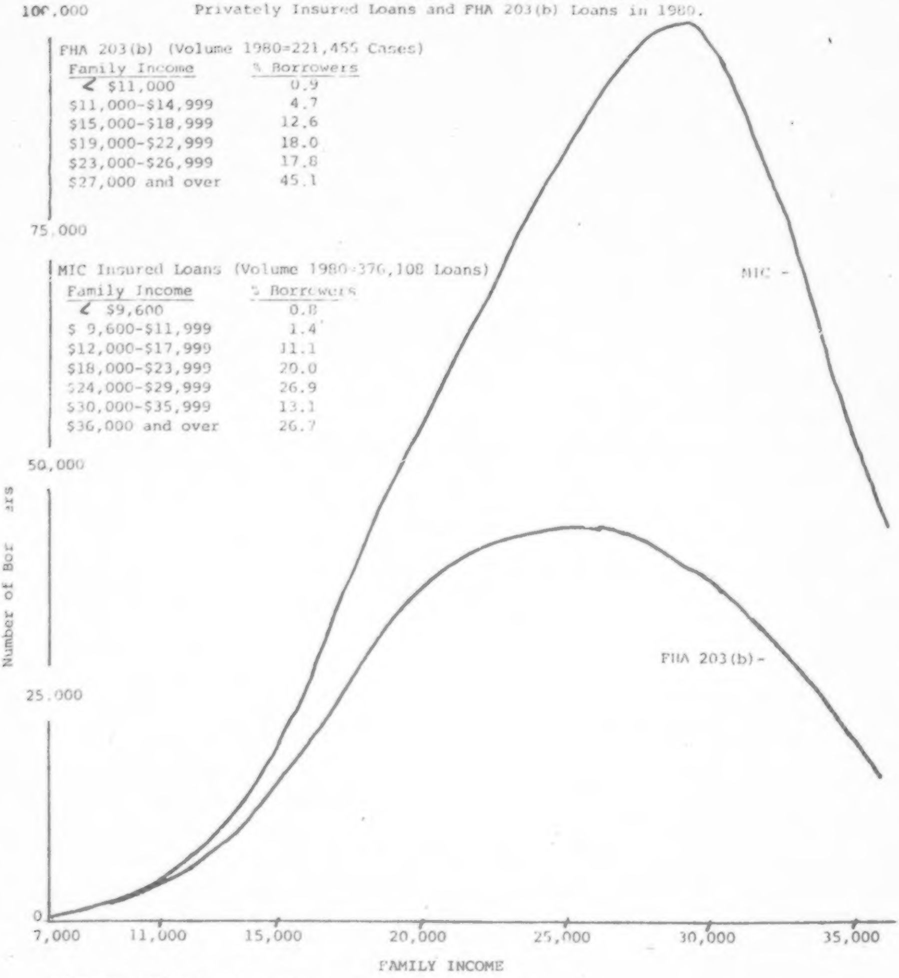
[1] Contingency Reserve: an additional premium reserve established to protect policyholders against the effect of adverse economic cycles.

[2] Liberty Mortgage Insurance Company was acquired by Verex in 1976 (3/31)

APPENDIX 2

Schematic of a Distribution Curve
Showing Approximate Numbers of Borrowers
with Various Annual Family Incomes Obtaining
Privately Insured Loans and FHA 203(b) Loans in 1980.



FHA 203(b) (Volume 1980=221,455 Cases)

Family Income	% Borrowers
< $11,000	0.9
$11,000-$14,999	4.7
$15,000-$18,999	12.6
$19,000-$22,999	18.0
$23,000-$26,999	17.8
$27,000 and over	45.1

MIC Insured Loans (Volume 1980=376,108 Loans)

Family Income	% Borrowers
< $9,600	0.8
$ 9,600-$11,999	1.4
$12,000-$17,999	11.1
$18,000-$23,999	20.0
$24,000-$29,999	26.9
$30,000-$35,999	13.1
$36,000 and over	26.7

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*FHA Average Annual Family Income 1980 = $27,296.

**The sources for the distribution are MICA and FHA Trends Reports. The schematic for the graphs are based on representative samples.

APPENDIX 3

Capacity of the Private Mortgage Insurance Industry to Write Additional Insurance

Capacity to write additional insurance determines the amount of new insurance that can be written at that point in time without adding to existing policyholders reserves. Policyholders reserves are a key estimate and using state insurance commission definitions, are made up of uncommitted contingency reserves and policyholders surplus.

State mortgage guaranty insurance laws prohibit exposure (risk) from exceeding 25 times total policyholders reserves (capital). Using this limit of 25 and multiplying it by total policyholders reserves will provide an accurate estimate of the industry's total risk writing capacity. Private mortgage insurance, however, is used where needed to insure the risk portion of the loan. Typically, policies will cover the top 20 to 25 percent of the principal balance of the loan at origination. Based on industry data, the average risk portion of all loans is approximately 22 percent. Thus, to estimate the loan insuring capacity (expressed in terms of the face amount of the loans) one would multiply the industry risk writing capacity by 4.55 (1 ÷ 0.22).

In the following table, row (1) is the aggregate Policyholders reserves. Row (2) is row (1) multiplied by the statutory limit of 25 and shows total risk writing capacity. Row (3) is the actual risk in force measured for the respective years. To obtain row (4), the excess insuring capacity at that year end point, subtract row (3) from row (2) and then multiply by 4.55. The excess insuring capacity is expressed in terms of the aggregate dollar volume of insured mortgages.

Industry Insuring Capacity (dollars in billions)

	1975	1976	1977	1978	1979	1980[3]
(1) Policyholders Reserves $	.468	.583	.753	.952	1.132	1.313
(2) Risk Writing Capacity $	11.7	14.6	18.8	23.8	28.3	32.8
(3) Actual Risk in Force[1] $	8.8	10.6	13.9	17.0	20.2	22.5
(4) Excess (Unused) Insuring Insuring Capacity $	12.6	18.0	22.4	30.9	36.8[2]	47.0

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[1] Although statutory limit for the risk-to-capital ratio is 25 to 1, MICs operate more conservatively. The actual risk-to-capital ratio over the past 5 years has been approximately 18 to 1.

[2] For comparison purposes, total volume of mortgages insured by the FHA during fiscal year 1980 was $21.6 billion including single and multi-family, subsidized and unsubsidized.

[3] Based on preliminary unpublished industry data.

Although the above table shows a significant growth rate of excess capacity, it is important to note that this estimate is unbounded. The industry has substantial ability to create new insurance capacity. Capacity can be created not only by increments from operations (premium and investment income) and from the prepayment and repayment of insured loans, but importantly, can come from the infusion of new capital. This last source is especially revealing when one considers the assets of the holding company, parents of most individual mortgage insurance companies. (See appendix 1)

STATEMENT OF KATHRYN WYLDE, ASSISTANT TO THE PRESIDENT AND URBAN AFFAIRS OFFICER OF ANCHOR SAVINGS BANK

Ms. WYLDE. By some coincidence Mr. Waldo and I are from the same hometown of Madison, Wis. I don't know how that happened.

Senator HUDDLESTON. We are glad to have two Wisconsonites here.

Ms. WYLDE. Presently Brooklyn, now.

Senator Huddleston and staff members, my name is Kathryn Wylde. I am assistant to the president and urban affairs officer of the Anchor Savings Bank which is a $2 billion federally chartered savings institution headquartered in Brooklyn, N.Y.

FAVOR NEIGHBORHOOD SELF-HELP DEVELOPMENT PROGRAM

I am testifying in favor of continued Federal appropriations for the neighborhood self-help development program, administered by the Department of Housing and Urban Development.

I believe that my views reflect the strong support that has emerged in the banking community for this program and for the neighborhood organizations that it assists.

These views are important because banks continue to represent the primary source of private leveraged dollars that are crucial to the efforts of Congress and the administration to achieve maximum impact from investment of limited Government resources.

The neighborhood self-help development program is the only national source of direct support for nonprofit, neighborhood-based organizations involved in local revitalizations activities. While the level of appropriation is minuscule in the context of our Federal budget, the symbolic and practical significance of this program is great.

In the last several years, both Government and private institutions have come to rely on volunteerism and responsible community organizations to deal with problems and opportunities in neighborhoods where profit-motivated interests would not venture and could not be successful. We have asked neighborhood organizations to fill in the gaps created by cutbacks in public services, ranging from security in the streets to sanitation, housing, and economic development.

We have raised expectations among those who expend their time and energy in self-help activity that they will receive active support from Government and the private sector. Elimination of the single national program designed to support these neighborhood organizations would seriously undermine the credibility of our national commitment to the continued growth and vitality of the neighborhood self-help movement.

In recent years, Congress and Federal regulatory bodies have mandated banking institutions to recognize and to work cooperatively with neighborhood groups, particularly in low- and moderate-income communities. As a result of these directives, many banks have become involved with, and invested heavily in, neighborhood-sponsored activities.

In some cases, these investments have been possible because of self-help grants. But, on a much broader basis, banks have made commitments to finance revitalization projects that are sponsored, owned, and managed by neighborhood groups as a direct result of national policy that endorses local self-help efforts and promises long-term viability to neighborhood groups.

EXISTING INVESTMENTS JEOPARDIZED

Federal withdrawal of direct funding for neighborhood development organizations would represent a dramatic policy reversal, one that jeopardizes our existing investments and will certainly discourage financing of activities undertaken by self-help organizations in the future.

Anchor Savings Bank has worked with four New York City groups funded under the neighborhood self-help development program. These groups are often the only vehicle for congressionally mandated reinvestment in neighborhoods and properties that cannot support profit-motivated development. It is our experience that, in those low- and moderate-income communities where there is no organized neighborhood group, the only avenue for reinvestment is extremely costly, deep subsidy programs that can attract profit-motivated developers.

Federal efforts to contain costs and reduce Government outlays make the support and sustenance of neighborhood self-help organizations more important than ever before, as the most cost-effective means of preserving and redeveloping our Nation's least affluent communities.

Last year, Anchor Savings Bank actually initiated an application for a self-help grant to support a cooperative approach between Hispanic and Orthodox Jewish organizations in adjoining neighborhoods of Brooklyn. The successful application brought $150,000, over a 15-month period, in a joint award to the groups.

This grant enabled the groups to prepare and process applications for rehabilitation of several hundred units of housing that will result in private construction and mortgage loans of some $5 million.

Additional benefits of this $150,000 grant include stabilizing an 80-square-block area suffering from symptoms of urban decay and housing abandonment; reinforcement of the local housing market which, in turn, enhances opportunities for further private sector investment; and strengthening of two neighborhood-based development groups whose leadership and vitality is crucial to the revitalization of Brooklyn neighborhoods with a population of some 200,000.

SELF-HELP GRANT

Finally, the self-help grant was a vehicle for overcoming historic distrust between neighboring communities and for creating a new and mutually reinforcing relationship between Jewish and Hispanic residents whose previous interaction had been characterized by racial tension and conflicting goals.

Folding the self-help grant program into community development block grants is not a satisfactory replacement for direct Federal support. First, this approach would not provide the same level of credibility for nonprofit neighborhood efforts, since those programs and constituencies that the Federal Government identifies and directly supports automatically become important to others, including banks.

A second problem with CDBG funding is that not all State and municipal governments share the Federal commitment to local self-determination and maximum individual participation in the decisions that affect his or her life.

Our experience with CDBG support for neighborhood organizations is mixed, with decisions often based on political expediency and tempered by the potential threat that strong neighborhood organizations can pose to local units of government. The self-help grant has been a nonpolitical source of support, with funding criteria tied to the professionalism of the applicant and the quality of project and performance.

This has provided all the right incentives for neighborhood groups to transcend the give-away mentality of the antipoverty programs and the political patronage implications of CDBG.

It is often said that neighborhood-based, self-help efforts are the key to rebuilding and preserving communities in a new era of Government fiscal austerity. If we agree with that premise, then the incentives and performance standards established by the self-help program are essential to assure the evolution of neighborhood groups into viable agents of local development.

In the face of a variety of Government cutbacks, neighborhood groups are increasingly turning to banking institutions for operating support and project subsidies. This has created a particular dilemma for thrift institutions which are engaged in a fight for their very survival.

We are certainly willing to do our share in support of neighborhood self-help efforts, but it is unrealistic for the Federal Government and Congress to raise public expectations on the one hand and then unload responsibility for responding to them on the private sector or localities.

The neighborhood self-help movement holds tremendous promise for restoring and preserving communities across the Nation. This movement is still too young to survive without Federal support and, at the same time, it is already too successful to abandon.

Thank you.

Senator HUDDLESTON. Thank you very much for your excellent testimony.

Is Steve Carlson with us?

Mr. Carlson is the mayor of the city of Jamestown, N.Y.

STATEMENT OF HON. STEVE CARLSON, MAYOR, JAMESTOWN, N.Y.

Mayor CARLSON. Thank you very much, Senator Huddleston.

My name is Steven Carlson. I am the mayor of the city of Jamestown, N.Y.

I am here today representing the U.S. Conference of Mayors, a membership organization representing the mayors of cities with populations of 30,000 or more.

The fiscal year 1982 appropriation for HUD is a matter of great concern to mayors around the country. The last few months of debate over the Federal budget have been unsettling for city government. Many of the proposed cuts threaten the ability of mayors to provide services to many of our residents, residents who clearly qualify as among the most needy in our country.

FUNDING LEVELS CONCERN TO MAYORS

In particular, the fiscal year 1982 levels for community development block grants and urban development action grants have concerned most of our members. We are pleased that both programs were reauthorized for fiscal year 1982 in the Banking Committee. I urge the Appropriations Committee to adopt the levels recommended by the Banking Committee for these programs, the $3.7 billion for community development and $500 million for the UDAG program.

The CDBG level is just about equal to the amount provided in fiscal year 1981. This is in spite of considerable growth in the universe of eligible entitlement recipients and, of course, the steady erosion of purchasing power over the last year.

Any further cuts will merely translate into cutbacks at the local level in program operation. There is no significant savings, in my opinion, to be achieved through greater efficiency. In a related area, Senator, I am personally very concerned about the Banking Committee's decision to permit States to operate the small city grant program the next fiscal year.

SMALL CITY GRANT PROGRAM

As a participant in the comprehensive small cities grant program, I have several worries: First, I do not believe that there is anything, really, to be gained by this option. I believe it will lead to less efficiency, not more, in the operation of the CDBG for small communities like Jamestown.

Second, it is of utmost importance that the States not be permitted to use Federal CDBG funds to administer a State-run small business program. S. 1197 now bars the use of these funds for such purposes, and I hope this subcommittee will consider whether additional strengthening language in the appropriation is appropriate.

Third, I am very concerned about the 10 percent so-called hard cash match required by S. 1197. The report accompanying the bill, H.R. 9787, indicates that any State assistance to any small city participating in the program can be counted as the hard cash match, including planning assistance, fiscal development assistance, and so on, whether or not it is specifically tied to the CDBG funding activities.

We believe that this is inadequate. States should be required to put 10 percent additional funding into the CDBG pot for the State and distribute it to the member cities to use as they see fit under the guidelines of the program.

We hope the Appropriations Committee will consider language to this effect and, at the very least, clarify that some of the planning assistance will not, under any circumstances, be acceptable as part of the match required by S. 1197.

Fourth and finally, S. 1197 contains no requirement for States to take the option of running the small cities program to honor multiyear commitments made by HUD in fiscal year 1981 or any subsequent year under the comprehensive small cities program.

My community, Jamestown, was just awarded such a grant. We are proceeding on our comprehensive program which envisions 3 years of funding. As I am sure you know, such comprehensive grants are awarded on a year-to-year basis, and the previous year's work has been demonstrated to be both making progress toward the objectives of the program and that we demonstrate a continuing capability to meet those objectives.

There is no 3-year grant agreement signed as a legal document. Therefore, it would be possible for the States to ignore these commitments and leave communities like Jamestown holding the bag.

I urge the Appropriations Subcommittee to include language in its bill requiring States to take a small cities program over to honor outstanding multiyear commitments approved by HUD in the comprehensive small cities program.

I believe this is an appropriate area for your subcommittee to act in, since funds you approved in previous years could be jeopardized through State denial of continued funding.

There is a most interesting editorial in today's New York Times on this very matter. I would urge you to read that, if you haven't already, and I might also point out that the Washington Post carried a similar editorial earlier this week on this very same subject.

HOUSING ASSISTANCE

In the area of housing assistance, we emphasize our full support for the highest possible level of funding for assisted housing programs. The need for this assistance is clear. While the individual programs may have their problems, they are the only programs that we have at a local level to operate on for the present. Until something better is developed to take their place, I urge the Appropriations Committee to continue funding for them at the maximized authorized level.

Similarly, we support the continuation of the GNMA tandem program, both to clear the pipeline of projects for which commitments have already been made, and to help finance proposed section 8 projects.

PUBLIC HOUSING OPERATING SUBSIDIES

Another area of grave concern to the members of the U.S. Conference of Mayors is the appropriation for public housing operating subsidies. At this stage of our work, we can ill-afford to let public housing now in operation fall into disrepair or vacancy through inadequate operating assistance.

Congressional limitations on the amount which can be charged for rents and the inability of the Federal bond subsidy to meet rising operating costs are creating a terrible dilemma for many public housing agencies.

I hope this subcommittee will recognize the need and not try to dismiss it as simply a problem of bad management, as the administration has in recent hearings.

At the present time, many authorities are operating at only 85 percent of the fund level, which should be provided by the performance funding system. This system was designed to provide objective measures of management costs and has, itself, been criticized as being inappropriate for many authorities, as I think you have heard earlier today by other persons testifying.

Yet, even this insufficient subsidy has been cut further. We urge the subcommittee to fully fund the authorized amounts of the public housing operating subsidy program.

I thank you for the opportunity to comment on HUD's fiscal year 1982 appropriation. We urge your consideration of the conference position on these matters.

[The statement follows:]

STATEMENT OF STEVEN CARLSON, MAYOR, JAMESTOWN, N.Y., ON BEHALF OF UNITED STATES CONFERENCE OF MAYORS AND NATIONAL LEAGUE OF CITIES

Mr. Chairman, distinguished members of the Subcommittee, my name is Steven Carlson. I am the Mayor of Jamestown, New York, and I am here today representing the U.S. Conference of Mayors and the National League of Cities. I appreciate this opportunity to comment on the General Accounting Office's recent report on the Community Development Block Grant program.

The Community Development Block Grant (CDBG) program has been, in my estimation, a successful program embodying the best aspects of a partnership approach to community development. Local government, the federal government, and citizens in the community all have the opportunity to participate in this partnership through the CDBG program. We believe it is a fundamentally sound program, and do not believe that significant changes to the statute are warranted. Since its inception, it has provided billions in assistance to large communities and small cities, for housing rehabilitation and major redevelopment work. My own community has participated in the Comprehensive Small Cities grant program. We are very pleased with that program.

The General Accounting Office's recent report, The Community Development Block Grant Program Can Be More Effective in Revitalizing the Nation's Cities (CED 81-76), underscores once again the need for the CDBG program. Citing numerous studies, the report notes that the plight of central cities has not improved measurably over the decade of the Seventies. Substantial deterioration in public facilities and housing stock, wide disparities in income between city dwellers and others, and other familiar indices all point to a continuing need for assistance to America's cities.

The report also raises questions about the way in which CDBG funds are used to address those needs. I am not able to refute the GAO's field work. However, I would like to point out a few areas where I believe that questions can be raised about the GAO's conclusions.

For instance, the GAO finds that targetting of CDBG resources is insufficient in the areas it studied. Geographically, the GAO feels the aid is too diffused, and the NSA's often too numerous or too poorly defined. However, the criteria used to come to this conclusion are not presented to the reader. Citations are included from unnamed local and HUD officials to support the conclusion, but there is no objective determination offered which would suggest just how the GAO believes the federal government should enforce better targetting. The key feature of the CDBG program is that local governments have broad flexibility to define their own needs, and to develop appropriate responses to those needs. It should not be left to HUD officials to determine how large an area should be treated. That is appropriately a local decision. As the GAO's own preface points out, the level of assistance provided under CDBG or any other federal urban aid program is insufficient to cure all a city's ills, or fix all its physical problems. Therefore, the federal government should leave to localities the determination of how to balance competing needs and interests at the local level.

The report also criticizes the use of CDBG funds for public services. As a general matter, I believe there is a role for public service activities within the context of a comprehensive CDBG program. At the same time, I believe that such services should be for the primary benefit of low- and moderate income people, and should be related in some way to the physical development thrust of the CDBG program. Some of the examples cited by GAO seem inappropriate. But I don't know the particulars of the examples, and hesitate to criticize without all the facts. I hope the Subcommittee will support the continued availability of CDBG funds for limited public service programs.

I would add that recent proposals to cut back social service programs at the federal level are likely to lead to even stronger pressures on city government to provide these services through CDBG.

The GAO also criticizes rehabilitation programs operated by cities with CDBG funds. In particular, it claims that rehab funds are used to finance repairs for owners who are well able to pay for them without help. Again, the specifics of the GAO examples are hard to refute, because I don't know the cities or all the facts. However, we,too, believe that funds for CDBG should be targetted, as the statute directs, for the benefit of low- and moderate income people. At the same time, we should recognize that there are occasions when assistance to others can be a critical element in making a redevelopment or preservation strategy succeed. Congress recognized this by permitting the use of CDBG funds to revitalize deteriorated areas to attract persons of higher income. Once again, no blanket judgment should be made condemning the use of CDBG funds for those not of low- or moderate income. The test should be whether the activities undertaken by the local government meet one of the three purposes of the statute, and whether the specific activities are part of a comprehensive approach to a community development problem.

I would like to stress that both the Conference of Mayors and the National League of Cities support the establishment of national goals in the CDBG and other programs. We believe the Congress has a legitimate role in setting the overall context in which federal tax revenues are spent. We believe that the current CDBG statute established a workable, successful framework for local governments to proceed with maximum flexibility to meet those national goals. The GAO report has highlighted some areas where there may be need for greater diligence by local and federal governments. However, we hope the Subcommittee will consider the criticisms lodged by GAO in light of the overriding need to continue the partnership approach embodied in the Housing and Community Development Act of 1974 without significant change, and certainly without any significant addition of federal interference in the local goal-setting and program process.

I would also like to stress that the GAO concerns about targetting of aid to needy people and needy areas is very legitimate. It is ironic that while such a report is being considered in this Subcommittee, the Senate is being asked to consider a change in the CDBG program which might, in my opinion, lead to very significant changes in the overall distribution of funds. I refer to the Senate bill S.1197, the Housing and Community Development Amendments of 1981, which would give states the option of administering the Small Cities CDBG program with a minimum of federal oversight or direction. Since 1974, small cities have had a direct funding relationship with HUD through tne Small Cities Grant program. This program works. My community has participated in it since its inception. We have no complaints about its basic structure. We certainly have no complaints about it that could be rectified by turning administration of the program over to the state.

If this Subcommittee is concerned about targetting in the CDBG program, then I urge you to look closely at the possible implications of the state CDBG program option. What S. 1197 would permit is the development of 50 new systems for allocating funds to small communities. It would permit the development of entirely new ranking systems for grant award. Federal oversight of the program would be minimal. I ask the Subcommittee to consider how sensitive to the needs of urban centers states historically have been, and how sensitive you believe their administration of such a program would be in the state CDBG program. Clearly, there will be great variations in this area. Both the League of Cities and the Conference of Mayors strongly oppose the provisions of S.1197 regarding state administration of the Small Cities program. I would like to submit for the record a policy statement to this effect adopted by the Board of Directors of the National League of Cities at their recent meeting.

Thank you for the opportunity to comment on the GAO report. I will be happy to answer any questions you may have at this time.

A Policy Statement on

The State Role in Federal Community and Economic Development Programs

NLC reaffirms its support for continued Federal assistance to promote local community and economic development. We believe States should support local efforts in these areas and NLC supports greater State participation if that participation is accompanied by substantive State resources. We oppose, however, permitting States to exercise substantive programmatic decisions over the local use of existing Federal community and economic development funds. Current Federal efforts in these areas are based on effective working relationships developed over many years and should not be disrupted.

Adopted by the Board of Directors of the National League of Cities, May 23, 1981.

STATEMENT OF LEWIS H. SPENCE, RECEIVER/ADMINISTRATOR, BOSTON HOUSING AUTHORITY

Senator HUDDLESTON. Next, we will hear from Mr. Lewis H. Spence, receiver/administrator, Boston Housing Authority.

Go right ahead.

Mr. SPENCE. Senator Huddleston, I am Lewis H. Spence, the administrator of the Boston Housing Authority.

I welcome the opportunity to discuss with you the financial problems facing the Nation's public housing program.

As you know, in fiscal years 1980 and 1981 the public housing operating subsidy account was seriously underfunded and required supplemental appropriations. OMB estimates for operating subsidies continue to be substantially below the actual requirements of public housing agencies.

If the administration's request for fiscal year 1982 is not increased, a supplemental appropriation will be required again next year.

FY 1982 OPERATING SUBSIDY REQUIREMENTS

I will focus my remarks today on three points: First, the operating subsidy requirements for fiscal year 1982; second, improvements in the performance funding system; and third, the continuing shortfall in operating subsidies for fiscal year 1981. Portions of my testimony are based on an analysis of operating subsidy requirements undertaken by the Citizens Housing and Planning Association of Boston.

I have attached to this testimony a copy of that analysis for the information of the subcommittee.

The administration has requested an appropriation of $1.205 billion for operating subsidies for fiscal year 1982 for public housing. I recommend to the subcommittee that this request, to be realistic, and to avoid a supplemental appropriation, be increased to $1.465 billion. The administration's request does not adequately reflect increased utility costs or past deficiencies caused by understated inflation factors. It overstates tenant rent contributions for the coming fiscal year.

The administration's request assumed a utility cost inflation rate of 11.4 percent from fiscal year 1980 to fiscal year 1981, and 11.3 percent from fiscal year 1981 to fiscal year 1982. Both of these numbers, if we only look at our home utility bills, obviously, seriously understate the utility cost inflation rate during this period.

OMB's requirement that HUD use the 11.3-percent inflation rate was based on a forecasting model developed by the Department of Energy for the midterm; that is, for 1983, 1990, and 1995, but appears to be inappropriate—in fact, we have been knocked out of the box—as a forecasting tool for dealing with the substantial energy price increases that followed the oil price increases of March 1979.

PUBLIC HOUSING UTILITIES

The administration has requested $880 million for public housing utilities in 1982. The most recent available information suggests that the cost of utilities in 1981 will approach $885 million.

In 1981, then, the request for the current year, the year which we are just ending, is a $5 million decrease more than the administration has requested for 1982. [Pause.]

Senator GARN [presiding]. Please go ahead. I apologize for the interruptions. It has been chaos around here for the last 2 days.

Mr. SPENCE. I recommend to the subcommittee that a more realistic figure for fiscal year 1982 utility costs will be $1.062 billion. This number is based upon a 25-percent utility inflation factor from fiscal year 1980 to 1981, which is proving to be the case from numbers coming in this past winter, and a 20-percent utility inflation factor from fiscal 1981 to 1982.

The underlying problem of utility costs is that past increases in fuel prices have not yet worked their way through the system. They are not fully reflected in the current budget request for fiscal year 1982. The fiscal year 1982 budget will include not only budgeted fuel costs for fiscal year 1982, but also budget overruns attributable to utility price increases for fiscal year 1981 utility costs.

For example, the 102-percent increase in oil prices that occurred from January 1979 to January 1980 was followed by price increases in electricity generated from oil. The electricity price increases will be felt during the fiscal year 1981 budget year. The cost overruns caused by increased electricity prices in fiscal year 1981 will have to be funded out of the fiscal year 1982 budget.

In summary, instead of facing this issue of utility cost increases, OMB has proposed that fiscal 1982 utility costs, budgeted amounts for fiscal 1982 utility subsidies, be $5 million less than the amount of, in fact, the actual costs of utilities in fiscal 1981. The fiscal 1982 budget represents a $5 million decrease in utility costs from the actual costs of fiscal 1981 utility costs.

RESULTS OF OMB UNDERESTIMATIONS

The result from this consistent OMB underestimation of utility cost inflation has been that the higher utility costs spill over from one fiscal year to the next, perpetuating and aggravating the horrendous financial condition—or the disturbing financial condition, certainly, and in a few instances, horrendous financial conditions of public housing in the Nation.

In the area of nonutility, HUD and OMB have concluded that the factors used to predict inflation from 1975 to the present were underestimated. OMB has agreed with that. The factors understated the actual effects of inflation upon nousing authority nonutility operating costs. As a result, housing authorities were unable to fully fund needed maintenance, operating costs and administration during this period. The shortfall, due to underestimation of nonutility inflation factors, is estimated to run at the rate of $82 million per year currently around the Nation.

HUD's original request would have provided this $82 million increase and another $118 million for shortfalls for the years prior to fiscal year 1982, for a total of $200 million. The administration has included only the $82 million for the current year's shortfall.

Although this line item is described as retrospective, no funds have been included to make up for the now OMB-recognized underfunding in previous years.

I urge this subcommittee at least to support the $82 million adjustment reflecting inflationary impacts on public housing, which has been proposed by the administration.

The Reagan administration's budget deducted $60 million from the Carter budget request and indicated that these funds would be recovered by raising the tenant rent contribution to 26 percent of income in fiscal year 1982, while phasing in a policy of increasing the tenant contribution to 30 percent over a 5-year period.

It is doubtful that HUD will have sufficient time to develop and implement regulations. The more that local housing authorities have year-to-year lease requirements then the applicability, obviously, of local and State law to the timing of rent increases in accordance with year-to-year leases. It is doubtful that that increased tenant contribution to 26 percent of income will have any impact on housing authority budget and housing authority in fiscal year 1982. The earliest these funds could be available would be fiscal year 1983. While we do not argue that the increase can be accomplished, I think, frankly, there is simply a lack of recognition at the local level. Therefore, the $60 million is anticipated a year too early.

I recommend to the subcommittee that the $60 million deducted from operating subsidy be restored for fiscal year 1982.

PERFORMANCE FUNDING SYSTEM

HUD is in the process of completing a 2-year evaluation of the performance funding system. The evaluation has uncovered a number of areas in which PFS can be improved. I would point out that your authorizing committee, the Senate's own authorizing committee recognized the results, some of the initial implications of that HUD/OMB-sponsored study of performance funding and some of the alarming points it raises for public housing around the Nation.

HUD is also considering issuing an RFP to undertake a revision of PFS based upon the evaluation that they have just completed. In light of these events, it might very well be an appropriate time for congressional oversight hearings focusing on the performance funding system. During 1976–77 it was congressional action which prompted HUD to implement a revised and more equitable performance funding system.

Among the areas such hearings could focus on would be the following:

As mentioned above, finding more accurate methods to predict inflation rates and utility costs.

Second, revision of the 1975 base level of expenditures in the performance funding system. I don't want to go into technical details on what is a very elaborate system, but, basically, the system for distributing operating subsidies prior to performance funding arbitrarily depressed the operating costs of many public housing agencies. These inaccurate costs prior to performance funding were brought into PFS when the budget year 1975 was adopted as the base level of expenditures for the calculation of PFS operating subsidies;

Third, adequate funding of costs beyond the control of public housing agencies. In past year, some funds have been made available for this purpose. HUD this year requested $100 million in discretionary funds for the Secretary, which might be simply used to address costs beyond the control of local authorities, an appeal and review process, which gives HUD, obviously, considerable control, enormous control over that process, that allowed recognition of peculiar circumstances that are beyond the control of local authorities.

Recently, because of high utility costs, no funds have been available to address the unique problems of individual authorities when they occur.

This year again, the $100 million requested by HUD had not been included in the administration's request. We are candidly recognizing the hard times and the importance of limiting to only the most necessary funds our request. We, ourselves, are not proposing that that $100 million be included this year. We, obviously, would like to see it. We would urgently hope that it might be included, but we have sought to present in our detailed analysis what we consider to be a bottom-line figure for preventing disaster this year and the next.

Fourth, oversight hearings might focus on the inclusion of variables that will more accurately predict the costs of large housing authorities, such as neighborhood characteristics, vandalism, and the impact of unions.

Since the implementation of PFS in 1975, public housing agencies have become more dependent on operating subsidies. There have been no major revisions in the system since the congressional oversight hearings of 1976–77.

I recommend to the subcommittee that oversight hearings on the performance funding system would be beneficial in arriving at the most equitable method of distributing operating subsidies.

OPERATING SUBSIDY SERIOUSLY UNDERFUNDED

As you are aware, the operating subsidy for fiscal year 1981 is seriously underfunded. This subcommittee has already acted on a supplemental appropriation of $100 million required by increased utility costs. HUD has gathered actual utility costs from housing authorities of fiscal years ending on December 31, 1980, and $140 million in additional funding will be required for utility costs in fiscal year 1981, the total shortfall in operating subsidies for fiscal year 1981 being $240 million. This one does not include that $100 million authority or—appropriated by this committee.

There are only two sources for the additional funds, the $140 million remaining: a second supplemental appropriation for fiscal year 1981 or the fiscal year 1982 budget which the subcommittee is currently considering. HUD is analyzing the utility data in order to determine subsidy levels for housing authorities with fiscal years beginning in July 1981, and October 1981. In order that the subcommittee be fully informed, HUD should make the most recent utility data available to the subcommittee immediately in order for you to realistically and on an informed basis estimate and understand and project the necessary costs for the fiscal 1982 budget. For the subcommittee to act on a fiscal 1982 budget without HUD coming forth with the true costs of 1981 utilities in public housing would, I believe, be asking this committee to act without full information about the facts it faces.

OMB has allowed ever-increasing utility deficits to roll over from one fiscal year to the next, creating the need for larger supplemental appropriations. The situation is now critical. Within the past week we have seen the Chicago Housing Authority drawn back from the brink of bankruptcy with the Federal guarantee of a $16 million loan. Unless corrective action is taken, a number of housing authorities will be in similar situations within the next year.

Thank you.

Senator GARN. Thank you very much, Mr. Spence.

Let me apologize for the interruption. When we originally scheduled the hearings for the public witnesses more than 3 months ago, I didn't anticipate that two things would happen: Yesterday was considerably disrupted because the full Appropriations Committee was meeting with the House on the supplemental and rescission bill which must be passed by Friday or the Government runs out of money; today, the Housing Community Development Authorization for 1982, which I am chairman of the Banking Housing and Urban Development Committee, is being considered by the Senate. If I could find a bald clone to be on the floor while I am here, or vice versa, it would make life a lot easier. I will get some additional interruptions on the housing bill. So, I apologize for the interruptions, but we do appreciate your testimony very much.

Thank you.

Mr. SPENCE. Thank you.

Senator GARN. I believe we will stand in recess for a couple of moments. Senator Weicker has been trying to get here for the last hour. We have intelligence data, if it is accurate, that indicates he has left his office and is on the way here to introduce Mayor Athanson. If all of you will bear with us, we will wait a couple of minutes and see if the intelligence is correct and he truly is en route.

[A brief recess was taken.]

STATEMENT OF GEORGE A. ATHANSON, MAYOR, HARTFORD, CONN.

INTRODUCTION OF MAYOR ATHANSON

Senator GARN. Senator Weicker?

Senator WEICKER. I apologize for keeping you waiting, Mayor Athanson. For as long as I have known the mayor, he has always been a very good and patient man, and one who very much represents, with ability, the interests of his city, even though we belong to opposite political parties. But he has the toughest job in the world. Well, you were a mayor, too. All three of us know what it is like to be a mayor, though it is a little more difficult to be the mayor of Salt Lake City than Greenwich, Conn. He has had a few more problems on his shoulders than we have.

In any event, George, I am glad you are appearing before the committee. I have already had a chance to read your testimony and, I might say, I agree with it.

It is nice to have you here. Let's see if you can get any more out of this town than I can get out of it.

Mayor ATHANSON. Thank you, Senator Weicker.

My name is George A. Athanson, A-t-h-a-n-s-o-n. I come here as the mayor of the city of Hartford.

First of all, I am very pleased that I have been given the opportunity to testify. I know that Mr. Garn is a former mayor and at the U.S. Conference of Mayors meetings was very, very instrumental in articulating and setting forth the concerns of the cities of America.

We are very, very grateful that he has such a distinguished position now with the U.S. Senate.

Senator GARN. No; I took a step downward when I came to the Senate. [Laughter.]

Mayor ATHANSON. We are glad you are here, sir; we are very glad, because I think you understand the concerns that have been expressed.

SYNOPSIS OF STATEMENT

Senator Huddleston, of course, is going to be in Louisville at the U.S. Conference of Mayors meeting in about 10 days. I have very brief testimony that I would like to set forth and then perhaps back it up with some figures that I just obtained that I think would be beneficial to the committee.

The city of Hartford is a typical older Northeastern city suffering from all the illnesses reported on a continuing basis in this region: The high unemployment, the deteriorating housing stock, and the widespread disinvestment. The central business district was replete with abandoned store fronts and partially occupied office and commercial structures. Shopping centers and industrial parks of all sizes were appearing along the ribbons of highways connecting once distant suburban areas with the central city. This central city, the home of countless multinational insurance corporations, was becoming a skeleton even as its neighbors grew healthy with low tax rates, low densities, and affluent residents.

To aid Hartford's residents and businesses to remain within the confines of its borders, the city adopted various tax incentive measures to compete with its smaller neighbors. These incentives succeeded in slowing down the mass exodus from city to suburb, but had less success in attracting much-needed new investment dollars to the urban core city.

The missing ingredient in these programs was actual dollars for investment to create an equal or positive balance sheet for newly created enterprises.

URBAN DEVELOPMENT ACTION GRANT PROGRAM

The city attempted to create this type of positive incentive with the advent of the urban development action grant program—UDAG. It really worked for the city of Hartford. During the time period between July 1978 through January 1981, the city of Hartford was able to secure seven UDAG's totaling $14.62 million. More importantly, those action grant dollars generated new private sector investments of $94.4 million in Hartford. This should be changed as a result of later figures that I have just obtained to $115 million. If I will go back and check again, it is probably higher; it is changing every day because the developers are investing more and more private money in terms of what they are doing.

In addition, as the city was losing some 5 percent of its total housing stock between 1970–80, the action grant program was returning in excess of 850 housing units to an anemic stock.

As city residents experienced the shift of employment opportunities from accessible to unaccessible locations, the action grant program created countless construction jobs within the city's core within easy reach by public transportation. The completion of the already approved projects will certainly create permanent employment opportunities, without continual subsidies, for approximately 2,000 persons.

However, with people like you, Senator Weicker and Senator Garn, who are deeply concerned about the future of this country, sitting on such an august committee, then I think that all of us can rest easy, because I think that we are in good hands.

I think that is the most that we can expect. This testimony has been just simply excellent. It is a pleasure just to sit here and listen to people express their concerns. I think that if we can be expressive and deeply concerned, I think that we can make the progress which is essential for a nation.

I see hard times ahead, harder times ahead, but I think that if we work together, I think we will be able to make it.

So I appreciate just being here. It is an honor for me to sit here before this microphone. I didn't expect that television would be here, either, but that's OK.

Senator GARN. I didn't, either. [Laughter.]

I thought they were here for you. [Laughter.]

Mayor ATHANSON. I thought they were here for Mr. Weicker.

ADVANTAGE OF LEVERAGING PRINCIPLE

In areas such as Hartford, it is necessary for the Government to aid businesses to restabilize their work force after the long period of drought. But unlike other public offerings, it is a one-time effort with no continuing commitment. The leveraging principal—that is spelled wrong, make a note of that——

[Laughter.]

Mayor ATHANSON [continuing]. Allows more to be done with Federal dollars with longer term impact with the least investment. For each $3,000 to $5,000 UDAG investment, private industry creates one permanent job with no further cost to the Federal Government. Many workers will return that sum to the Government after 1 year of employment, the remainder in 2 years.

I want to just—I think you have the written testimony—but I just have some figures that I have obtained. We have in the upper Albany area, in the city of Hartford, upper Albany projects, 29 buildings. We have $300,000 in UDAG dollars. We put in the CDBG $184,000; private dollars, $1.4 million. In other upper Albany shopping centers, a solar energy manufacturing company will put in UDAG, $650,000, other dollars, EDA, $150,000; and private dollars, $1.2 million. The Aetna Training Center and rehabilitation of two office buildings, UDAG, $5.8 million. I call it the Aetna University because they are going to have one of the greatest training centers that any insurance company will ever set up—$5.8 million UDAG; $57 million private dollars. The Hilton Hotel renovation—and we needed a renovation, a bigger ballroom because we have a civic center, therefore, we are getting more and more convention business—$1 million UDAG, $12 million private dollars.

The Central Park Street area; we are not just doing it downtown. I am talking about Central Park Street where I was born and raised, where we have a lot of deteriorated housing; we have had a lot of bad economic situations prevailing there over the years, but we have a UDAG grant of $1.3 million and $5.3 million will be sunk in there in private dollars.

We had the Richardson Building, which is downtown, a shopping mall and apartments, $1.8 million UDAG; $9.9 million in private dollars.

One of the greatest projects I think is the Frederickson-Dennison-Went, which is three streets, a $40 million housing renovation, $3.7 million in UDAG; $28.5 in private dollars.

So, in housing, in downtown redevelopment, in terms of getting the shopping malls and other economic systems going like the solar energy manufacturing company, UDAG money has been used, I think, to trigger an unleashing, a creative potential that we even did not dream of. I hear that the House, not the Senate, but the House, the House wants to cut the $2 million in UDAG grants. I just hope that that doesn't happen. I just hope it doesn't happen because in the city of Hartford, I think we have benefited a great deal, and in talking with other mayors, I am instructed that UDAG has been a great help in terms of a trigger mechanism that has unleashed a greater potential, economically, socially, laborwise, jobwise, which has benefited all our communities.

Senator GARN. Thank you very much, Mayor.

Senator WEICKER, do you have any questions you would like to ask or any other comments?

Senator WEICKER. No; I have no questions. I think that the Mayor has eloquently stated the case. We just cannot turn our back on a situation that is as critical today as it was 4 years ago, 5 years ago, or 6 years ago. The problems haven't gone away. The people haven't gone away, and they are not going to. I think it is nice to contemplate certain new philosophies and certain new concepts, but it really still comes down to dollars and cents. There is no getting around that.

As I drive through Hartford today—and I might add, Hartford is no different than New York or any other major city; the conditions are still there that really shouldn't be a part of the American scene.

So I would hope that in what I consider to be a Republican way; that is, Federal money used as seed money, to encourage far greater investment by the private sector, that this program will continue. I want to say right now, Mr. Chairman, that nobody appreciates more than I do the wisdom and the compassion that you have brought to all your assignments and to the floor of the Senate, but I want to also say this: I sat through the Carter administration's alternative proposals of urbaning. Now I am hearing something about what do they call it, economic zones or——

Mayor ATHANSON. Enterprise zones.

Senator WEICKER [continuing]. Enterprise zones. Look, before everybody throws EDA in a trash basket and UDAG in a trash basket, I might suggest that the machinery and the mechanisms are there to do a very effective job and very much along the philosophical lines that you and I believe in.

The fact that some people have used these mechanisms in an excessive way does not mean that the mechanism is bad. It means it is good. I think it is especially good as far as UDAG is concerned, and I hope that we heed your advice.

Thank you very much, Mr. Chairman.

Senator GARN. I understand what my colleague says about Hartford and New York, but I will take Hartford to New York.

Mayor ATHANSON. Thank you very much. Thank you very much.

Senator GARN. Thank you.

Senator WEICKER. Jake, thanks an awful lot for your courtesy. I appreciate it. I appreciate it very much.

[The statement follows:]

Statement of George A. Athanson, Mayor, Hartford, Conn.

THE CITY OF HARTFORD IS A TYPICAL OLDER NORTHEASTERN CITY SUFFERING FROM ALL THE ILLNESSES REPORTED ON A CONTINUING BASIS IN THIS REGION: HIGH UNEMPLOYMENT, A DETERIORATING HOUSING STOCK AND WIDE SPREAD DISINVESTMENT. THE CENTRAL BUSINESS DISTRICT WAS REPLETE WITH ABANDONED STORE FRONTS AND PARTIALLY OCCUPIED OFFICE AND COMMERCIAL STRUCTURES. SHOPPING CENTERS AND INDUSTRIAL PARKS OF ALL SIZES WERE APPEARING ALONG THE RIBBONS OF HIGHWAYS CONNECTING ONCE DISTANT SUBURBAN AREAS WITH THE "CENTRAL CITY". THIS "CENTRAL CITY", THE HOME OF COUNTLESS MULTINATIONAL INSURANCE CORPORATIONS WAS BECOMING A SKELETON EVEN AS ITS NEIGHBORS GREW HEALTHY WITH LOW TAX RATES, LOW DENSITIES AND AFFLUENT RESIDENTS.

TO AID HARTFORD'S RESIDENTS AND BUSINESSES TO REMAIN WITHIN THE CONFINES OF ITS BORDERS THE CITY ADOPTED VARIOUS TAX INCENTIVE MEASURES TO COMPETE WITH ITS SMALLER NEIGHBORS. THESE INCENTIVES SUCCEEDED IN SLOWING DOWN THE MASS EXODUS FROM CITY TO SUBURB, BUT HAD LESS SUCCESS IN ATTRACTING MUCH NEEDED NEW INVESTMENT DOLLARS TO THE URBAN CORE CITY.

THE MISSING INGREDIENT IN THESE PROGRAMS WAS ACTUAL DOLLARS FOR INVESTMENT TO CREATE AN EQUAL OR POSITIVE BALANCE SHEET FOR NEWLY CREATED ENTERPRISES.

THE CITY ATTEMPTED TO CREATE THIS TYPE OF POSITIVE INCENTIVE WITH THE ADVENT OF THE URBAN DEVELOPMENT ACTION GRANT PROGRAM (UDAG). IT WORKED! DURING THE TIME PERIOD BETWEEN JULY 1978 THROUGH JANUARY 1981, THE CITY OF HARTFORD WAS ABLE TO SECURE SEVEN (7) U.D.A.G.'s TOTALLING $14.62 MILLION. MORE IMPORTANTLY, THOSE ACTION GRANT DOLLARS GENERATED NEW PRIVATE SECTOR INVESTMENTS OF $90.944 MILLION IN HARTFORD. IN ADDITION, AS THE CITY WAS LOOSING SOME 5% OF ITS TOTAL HOUSING STOCK BETWEEN 1970-1980, THE ACTION GRANT PROGRAM WAS RETURNING IN EXCESS OF EIGHT HUNDRED AND FIFTY (850) HOUSING UNITS TO AN ANEMIC STOCK.

AS CITY RESIDENTS EXPERIENCED THE SHIFT OF EMPLOYMENT OPPORTUNITIES FROM ACCESSIBLE TO UNACCESSIBLE LOCATIONS, THE ACTION GRANT PROGRAM CREATED COUNTLESS CONSTRUCTION JOBS WITHIN THE CITY'S CORE WITHIN EASY REACH BY PUBLIC TRANSPORTATION. THE COMPLETION OF THE ALREADY APPROVED PROJECTS WILL CREATE PERMANENT EMPLOYMENT OPPORTUNITIES, WITHOUT CONTINUAL SUBSIDIES, FOR APPROXIMATELY TWO THOUSAND (2000) PERSONS.

AS FEDERAL AND LOCAL DOLLARS ARE COMMITTED TO THE URBAN CORE THE PRIVATE SECTOR HAS RESPONDED WITH RENEWED INVESTMENT AND THE RESIDENTS WITH RENEWED INTEREST AND PARTICIPATION IN THEIR OWN FUTURE.

THE HISTORICAL PATTERN OF FEDERAL PROGRAMS FOR THE CITIES HAS IN PART NECESSITATED THE NEED FOR ACTION GRANT PROGRAMS. PAST PROGRAMS HAVE RELIED ON THE GOOD INTENT OF THE FEDERAL AND MUNICIPAL GOVERNMENTS TO ACHIEVE THEIR OBJECTIVES. THOSE INTENTIONS, HOWEVER NOBLE, WERE NOT ENOUGH. WHAT WAS LACKING WAS PARTICIPATION BY OTHER PARTS OF THE PARTNERSHIP. THERE WAS LITTLE INCENTIVE ON THE PART OF LARGE AND SMALL BUSINESSES AND/OR RESIDENTS TO BE ACTIVE PARTICIPANTS IN REVITALIZATION EFFORTS. IN AREAS SUCH AS HARTFORD, IT IS NECESSARY FOR THE GOVERNMENT TO AID BUSINESSES TO RESTABILIZE THEIR WORKFORCE AFTER THE LONG PERIOD OF DROUGHT. BUT UNLIKE OTHER PUBLIC OFFERINGS, IT IS A ONE-TIME EFFORT WITH NO CONTINUING COMMITMENT. THE LEVERAGING PRINCIPAL ALLOWS MORE TO BE DONE WITH FEDERAL DOLLARS WITH LONGER TERM IMPACT WITH THE LEAST INVESTMENT. EXAMPLE; FOR EACH $3,000-$5,000 UDAG INVESTMENT PRIVATE INDUSTRY CREATES ONE (1) PERMANENT JOB WITH NO FURTHER COST TO THE FEDERAL GOVERNMENT. MANY WORKERS WILL RETURN THAT SUM TO THE GOVERNMENT AFTER ONE YEAR OF EMPLOYMENT, THE REMAINDER IN TWO (2) YEARS.

AS PREVIOUSLY MENTIONED, THE UDAG PROGRAM PARTICIPANTS HAVE AIDED IN REPLACING TWENTY SEVEN (27) PERCENT OF THE CITY'S LOST HOUSING STOCK. THAT RECAPTURING OF HOUSING STOCK CONTAINS A MIXTURE OF INCOMES AND MIXTURE OF OWNER AND RENTER OCCUPANCY. BOTH FACTORS RATE HIGH IN BRINGING STABILITY TO DECLINING NEIGHBORHOODS. OTHER BENEFITS OF THE HOUSING REHABILITATION PROJECTS FUNDED UNDER THIS PROGRAM ARE INCREASED TAX REVENUES BADLY NEEDED BY THE CITY AND ADDITIONAL NON-SUBSIDIZED INVESTMENTS IN THE AREAS DIRECTLY RELATED TO THE MORE STABILIZED AND RESURGENCE CHARACTER OF THE NEIGHBORHOOD.

THERE HAS BEEN CONGRESSIONAL DEBATE WHICH SUGGESTS INCORPORATING THE URBAN DEVELOPMENT ACTION GRANTS INTO THE COMMUNITY DEVELOPMENT BLOCK GRANTS (CDBG). THE EFFECT OF THIS INCORPORATION WOULD VIRTUALLY ELIMINATE UDAG's. DURING THE SAME JULY 1978-JANUARY 1981 PERIOD PREVIOUSLY MENTIONED THE CITY OF HARTFORD RECEIVED $13.3 MILLION IN CDBG FUNDING. OBVIOUSLY, THE THUS FAR APPROVED UDAG's COULD NOT HAVE BEEN FUNDED IN TOTAL THROUGH THE BLOCK GRANT PROGRAM AS IT PRESENTLY EXISTS.

THE ANSWER TO THIS DILEMMA IS NOT JUST TO INCREASE THE BLOCK GRANT BY A SPECIFIED AMOUNT TO COVER ANTICIPATED REQUESTS. THAT WOULD OVERLOOK ONE OF THE STRENGTHS OF THE PROGRAM-THE PROJECT BEING PROPOSED. THERE IS A POSITIVE ASPECT TO NATIONAL COMPETITION BASED ON THE EXCELLENCE OF THE PROJECT ITSELF. THERE IS PRESENTLY MINIMAL LIMITATION ON THE AMOUNT OF MONEY AVAILABLE TO DISTRESSED COMMUNITIES WITH WELL THOUGHT OUT, WELL PREPARED PROJECTS. INNOVATIVE COMMUNITIES WITH NOVEL APPROACHES TO ENCOURAGE INVESTMENT ARE REWARDED WITH ACTION GRANTS BASED ON MERIT

RATHER THAN ENTITLEMENT. TO SIMPLY ENLARGE THE BLOCK GRANT ENTITLEMENT DOES NOT ENCOURAGE EXCELLENCE, BUT RATHER ENCOURAGES MEDIOCRITY.

THE URBAN DEVELOPMENT ACTION GRANT PROGRAM IS VITAL TO THE INTERESTS OF THE CORE CITIES OF OUR NATION. I, AS MAYOR OF HARTFORD, STRONGLY SUPPORT THIS CONCEPT WHICH GREATLY BENEFITS THE CITIZENS OF OUR CITY.

STATEMENT OF SHANNON McADAMS, CITIZENS TO BRING BROADWAY BACK, BROADWAY DEVELOPMENT CORP., AND NATIONAL CONGRESS OF NEIGHBORHOOD WOMEN OF NEW YORK

Senator GARN. Next I would like to call to testify Ms. Shannon McAdams, Citizens to Bring Broadway Back, Broadway Development Corp., and National Congress of Neighborhood Women of New York.

Oh, oh, I am in trouble. I should have read the next item. It says "New York," right after I picked Hartford over New York. [Laughter.]

Ms. McADAMS. I am also a member of National People's Action.

Thank you for allowing me the opportunity to testify before this committee concerning CDBG legislation that is now before you.

HIGHLIGHTS OF STATEMENT

The National People's Action, a nationwide coalition of more than 300 community groups in 36 States dedicated to saving low- and moderate-income neighborhoods, is testifying here today because now, more than ever before, the survival of our neighborhoods is at stake. National People's Action has spearheaded both the mortgage and insurance antiredlining fight and the neighborhood reinvestment movement.

To a large degree, the fate of our neighborhoods, wherever you live, you live in a neighborhood, is going to be determined today. Whether they live or die, will be determined by the Senate and House subcommittees on HUD appropriations.

National People's Action insists this subcommittee gravely consider our testimony. We demand adequate HUD appropriation levels to leverage substantial private sector investment in low- and moderate-income neighborhoods. To reduce these appropriations, to approve their deregulation, is to sound the death knell of our older neighborhoods—America's greatest resource.

This very day, as you consider current year rescissions, National People's Action urges this subcommittee to vote against both the massive funding cutbacks for fiscal years 1981 and 1982 and against the radical deregulation that the Reagan administration is proposing for several HUD programs.

In considering S. 1197, you will actually be deciding whether or not to wipe out, in just a few days, many of our housing and community development gains, which took neighborhood groups several years to achieve.

EFFECTS OF S. 1197

Specifically, S. 1197 would have the following adverse effects on older neighborhoods:

It would terminate or cripple many Federal programs which assist low- and moderate-income people to repair, weatherize, buy, or rent decent housing.

It would cancel many ongoing, successful programs which now are revitalizing older neighborhoods for the benefit of their current residents.

It would decrease private sector investments now being leveraged by HUD programs into disinvested neighborhoods.

It would eliminate many productive partnerships formed in recent years between community groups, the private sector and local, State, and Federal government.

It would, by the cumulative effect of reducing the flow of housing capital into privately disinvested areas, imperil local tax bases.

In addition to these negative results which will occur if S. 1197 becomes law, perhaps the most glaring shortcoming of the bill is its failure to heed the recommendations of the General Accounting Office. S. 1197 would minimize Federal oversight powers and weaken or wipe out many Federal targeting requirements in the community development block grant program, despite the recent GAO report which recommends that Congress increase Federal guidance and strengthen Federal targeting to insure that low- and moderate-income people are the principal beneficiaries of community development block grants, as required by Federal law. The report, dated April 30, 1981, should be of particular interest to this subcommittee because it was released by Senator William Proxmire the ranking minority member of the Senate Committee on Appropriations.

In contrast to S. 1197, the House Subcommittee on Housing and Community Development has introduced its version of the Housing and Community Development Amendments of 1981, H.R. 3534. National People's Action urges this subcommittee to adopt H.R. 3534 which calls for no funding cutbacks and no deregulation of key HUD neighborhood revitalization programs.

Community development block grants is by far the largest HUD program which S. 1197 threatens to deregulate. Proposed regulations for CDBG would certainly have an equally dire effect on low- and moderate-income neighborhoods, as would the proposed funding reductions.

S. 1197 also would adversely affect low- and moderate-income neighborhoods by folding several programs into the CDBG, without providing any additional funding to support the newly included programs.

NEIGHBORHOOD SELF-HELP DEVELOPMENT AND ENERGY WEATHERIZATION PROGRAMS

We are especially concerned here about the neighborhood self-help development and energy weatherization programs. Self-help's success is directly attributable to its staff which has pioneered a national network of technical assistance, training, and information sharing to thousands of neighborhood self-help projects. All of the neighborhood self-help grants had the support of local governments due to the self-help requirement that each self-help grant be approved by the mayor or chief executive officer.

The greatest issues in American neighborhoods today are lower interest rates, jobs, and lower energy bills. The administration's proposed S. 1197 would effectively serve to make worse all three of these problems. Without adequate review, the Senate Committee on Banking, Housing, and Urban Affairs has narrowly passed a bill which would destroy several years of progress in developing sound, cost-effective, public-private partnerships to save America's neighborhoods. The issues in S. 1197 and H.R. 3534 are very clear: You either favor the survival of our neighborhoods or you are working to destroy them.

National People's Action urges the Senate Subcommittee on HUD and Independent Agencies to vote against S. 1197, which would cause irreparable harm to older neighborhoods and to vote for H.R. 3534, which would insure and continue revitalization of low- and moderate-income neighborhoods by rejecting deregulation, by opposing rescissions in fiscal year 1981 and providing adequate appropriations in fiscal year 1982 for the following aforementioned HUD programs.

FIRE STATION NO. 13

I am also giving, as part of my testimony, a picture of a plaque that was placed in our Fire Station No. 13 in the city of Cleveland last Saturday, when we dedicated this building. The very bottom line says:

> Funds for this facility were provided by a grant from the U.S. Department of Housing and Urban Development under title I of the Housing and Community Development Act of 1974.

I have worked with the citizens to bring Broadway back. That is where my expertise lies. We have been fighting for many years for this fire station. The fire station we had was over 100 years old and was not adequate for our neighborhood. The money was appropriated back in 1975. It was lost. We went back to our city administration. At that time it was the Kucinich administration. He refunded the station but other problems came up. It took up all these years to finally fund our fire station for the fourth time. I am very happy to report that it is now going to be in operation.

I am convinced that if it was not for community people constantly pushing to have this station funded and built, we would still have a 103-year-old station with collapsing floors to hold our fire trucks.

We have gotten very much involved in community development projects, and we realize that only half the money promised for streets, sewers, lighting, and sidewalk improvements, were actually being spent. We made our top priority to become part of the public meetings. We didn't come there with 5 people; we went there with 50 and 100, so that every street was represented in our neighborhood.

Instead of having grandiose plans for fountains and street rerouting, we got sewers relined. We have got curbs; we have got sidewalks. I wish you could come and walk down my street and not have to be very careful where you are about to fall because now we are coming back to a place where Cleveland should be. By proving that the city of Cleveland was willing to invest in our neighborhood, CDBG convinced First Federal Savings & Loan to commit $500,000 toward housing rehabing in our neighborhood.

This is evident through our self-help section.

We are very much against any type of cutting back in the self-help because we have found it to be most successful. With $95,000 that we received by Federal moneys, we generated $400,000. It would be very much—it would be very difficult for disinvested neighborhoods to attract the private funds that are necessary to rehab these homes.

I have to ask you if you are trying to force people out of our northern cities. We know that when we send a dollar of tax money to Washington, we don't necessarily get a dollar in return in Ohio. We haven't for years. National defense and now much of our capital and industry is going to the Sunbelt, but this national policy is causing great hardship on low- and moderate-income people.

Our cities are not dumps. They are changing. They are changing to be white-collar banking and service centers where before we were mostly blue-collar cities.

The Government is condoning the destruction of our cities' neighborhoods with S. 1197. Our experience tells us that not only will a fully funded CD program with citizen participation help the neighborhoods, but that the administration's idea that the private sector will assist disinvested neighborhoods won't work.

PREPARED STATEMENTS

Mayor Voinovich would like to take this opportunity to express his deep feelings against the Federal budget cuts. In addition, I ask that my statements be included in the hearing record.

Thank you.

[The statements follow:]

STATEMENT OF SHANNON MCADAMS, CITIZENS TO BRING BROADWAY BACK

Thank you for allowing me the opportunity to testify before this committee about the community development legislation now before you.

As a representative of Citizens to Bring Broadway Back, a community organization in Cleveland, Ohio I submit the experience of my neighborhood, North Broadway, as an example of the importance of the Community Development program being fully funded under existing regulations.

At the end of 1979, my neighborhood had been a target area for two years under the Community Development program. Our organization discovered that it was not receiving all the promised improvements that we had expected through CD (and God knows we need them!). We had worked for 1½ years to win construction of a fire station promised in 1975 to be built through CD. We discovered that this money had been quietly spent on something else, unknown to us. More money was promised for the fire station to come from the general fund. Then when Cleveland went into default, this money was reported "lost". We went back to CD, the Kucinich administration again re-funded the station, and we secured ground-breaking only to find that the contractor had no performance bond. It was up to the Voinovich administartion to fund the station for the fourth time, which I am pleased to report was dedicated last Saturday. I am convinced that if it were not for community people constantly pushing to have this station funded and built, we would still have a 103-year-old station with collapsing floors to hold our fire trucks. At the fire station dedication Mayor Voinovich talked about citizen participation. He said that he is often asked about what he thinks about groups like CBBB because we are always on his back. He said, yes, that's right, we are always on his back, but that citizen participation "pulls a neighborhood together." That is so true. This is nowhere more evident in North Broadway than with the Community Development program.

During our 3½ year fight to get a new fire station, we got involved in a lot more CD activities. We have secured 2 park projects through CD. In both cases we were even involved in planning the park itself. Across the street from my house the Barkwill elementary school closed in October 1978. We got the city schools to secure the building, which was still badly vandalized. We cleaned the outside and they cleaned out the inside. We got the city schools and the CD Department to negotiate the demolition of the school and sale of the property to the city. Barkwill Park will be constructed this summer. In addition to these parks we have seen important improvements to two other recreational areas. Republic Steel donated funds to put in a small park where once stood an abandoned building. The school system also was persuaded by CBBB to renovate the Tod School Playground which had previously been turned into a parking lot for school busses.

As we got more involved in CD projects, we realized that only half the money promised for street, sewer, lighting, and sidewalk improvements was actually being spent. We made it our top priority to attend all public meetings on CD funds for our neighborhood - not with 5 people, but with 50 and 100 so that every person and every street could be involved in deciding our neighborhood priorities. In this way we killed a proposal (which had already received tenative approval) which would have spent all the street, sidewalk, and sewers funds for three years on only one intersection, redirecting traffic and putting up a fountain and sculpture.

Instead (and I wish I could show you all the work being done right now), there are two dozen streets being resurfaced and new sidewalks being put in. After two years of delays, Hamlet Ave. has flood control, Willow School, and Barkwill Park have lights, and soon Broadway will have trees, a few benches, and trash cans. I don't believe that this is too much to ask for a city neighborhood. But it is simply true that until CBBB organized citizen participation in the CD program nothing was done. We followed through and followed through so much that we became"experts" in CD. We have been to City Council so much that they miss us when we aren't there. But as Mayor Voinovich says, citizen participation pulls a neighborhood together. (see letters)

By proving that the City of Cleveland was willing to invest in our neighborhood, CBBB convinced First Federal Savings and Loan to commit $500,000 toward housing rehabilitation in our area. We have presently rehabbed 2 homes and have received a Neighborhood Self-Help Development Grant to subsidize costs in a depressed housing market, and to employ our own contractor. We expect to rehab more homes in one year than to my knowledge have been rehabbed by the city's home rehabilitation program in the preceding three years.

Working with local social service programs, we have built support for a Community Center (near the new fire station) which will house an elderly nutrition program as well as other community services. This has been funded through CD and other grants, and will change another run-down commercial building into a community asset.

Our organization has also become involved with our local development corporation to assist neighborhood businesses. As a member of the Board of Broadway Development Corporation it is my responsibility to see to it that merchants and residents all work together to improve our commercial strip and residential areas. I am convinced that this project, which began only this year, will be able to bring real community benefits to North Broadway. Among our projects we are considering is that of a roller rink. Having secured a commitment to construct a rink, we are looking for ways to combine a relatively small amount of Community Development money with private investment to assist the rink in starting up, and to target a portion of rink profits inot community rehabilitation projects.

Speaking directly to some of the proposed changes in CD regulations in S 1197:

1) By eliminating the Neighborhood Self-Help program you are not making "better administrative sense" as Secretary Pirce has said before the House Subcommittee on Housing and Community Development. In Cleveland, the CD 3% loan housing rehab program has a year-long waiting list, a $4 million back-log in monies spent, and is spending 77% of its program funds on administration, according to a study just completed by the Commission on Catholic Community Action in Cleveland for the CSA. The only housing programs that are working in Cleveland are neighborhood-based. Three of these have received Neighborhood Self-Help grants, as well as private funds from banks, insurance companies, and foundations. This is not to be confused with the Neighborhood Housing Service, which is operating in two neighborhoods that do not over-lap with Neighborhood Self-Help neighborhoods.

Without the Neighborhood Self-Help program it will be increasingly difficult for disinvested neighborhoods to attract that private funds that are necessary to rehab homes. This raises the prospect of more vacant, burned homes in our communities just at a time when we have the ability to save them.

2) Reduction in funding levels for the CDBG program will have very serious effects in Cleveland. There is simply no other money available with which to make homes affordable, keep small businesses in the communities, and even to keep police on the streets. Already many of our policemen are paid for in target areas through CD. We absolutely cannot endure less safety than we have now.

3.) By eliminating the restrictions on where CD funds cann be spent, by eliminating the rule that 75% must benefit low and moderate income people, and that private economic development not be eligible, the Senate is opening the door for open warfare at Cleveland City Hall. I can tell you that some of the million-dollar proposals that go to CD are a waste, and you would probably agree with me. But we all know that for politics some of these will be funded. And inorder to keep any of what we have achieved for our neighborhoods, we will have to fight every special interest group in the City of Cleveland for money that is supposed to HELP NEIGHBORHOODS.

I have to ask you if you are trying to force people out of our northern cities. We know that when we send a dollar of tax money to Washington, we don't get a dollar in return in Ohio - and we haven't for years. National defense and now much of our capital and industry is going to the sun belt. But this national policy is causing great hardships on low and moderate income people. Our cities are not dumps. They are changing - to be white collar banking and service centers where before we were blue collar. But as our cities change, the government is condoning the destriction of city neighborhoods with S 1197. Our expereince tells us that not only will a fully funded CD program with citizen participation help neighborhoods, but that the administration's idea that the private sector will assist disinvested neighborhoods won't work.

Statement of Shannon McAdams, National People's Action

NATIONAL PEOPLE'S ACTION, A NATIONWIDE COALITION OF MORE THAN 300 COMMUNITY GROUPS IN 36 STATES DEDICATED TO SAVING LOW- AND MODERATE-INCOME NEIGHBORHOODS, IS TESTIFYING HERE TODAY BECAUSE NOW, MORE THAN EVER BEFORE, THE SURVIVAL OF OUR NEIGHBORHOODS IS AT STAKE. NATIONAL PEOPLE'S ACTION HAS SPEARHEADED BOTH THE MORTGAGE AND INSURANCE ANTI-REDLINING FIGHT AND THE NEIGHBORHOOD REINVESTMENT MOVEMENT.

TO A LARGE DEGREE, THE FATE OF OUR NEIGHBORHOODS -- WHETHER THEY WILL LIVE OR DIE -- WILL BE DETERMINED BY THE SENATE AND HOUSE SUBCOMMITTEES ON HUD APPROPRIATIONS. NATIONAL PEOPLE'S ACTION INSISTS THIS SUBCOMMITTEE GRAVELY CONSIDER OUR TESTIMONY. WE DEMAND ADEQUATE HUD APPROPRIATION LEVELS TO LEVERAGE SUBSTANTIAL PRIVATE SECTOR INVESTMENT IN LOW- AND MODERATE-INCOME NEIGHBORHOODS. TO REDUCE THESE APPROPRIATIONS, TO APPROVE THEIR DEREGULATION, IS TO SOUND THE DEATH KNELL OF OUR OLDER NEIGHBORHOODS -- AMERICA'S GREATEST RESOURCE.

THIS VERY DAY, AS YOU CONSIDER CURRENT YEAR RECISSIONS, NATIONAL PEOPLE'S ACTION URGES THIS SUBCOMMITTEE TO VOTE AGAINST BOTH THE MASSIVE FUNDING CUTBACKS FOR FISCAL YEARS 1981 AND 1982, AND AGAINST THE RADICAL DEREGULATION THAT THE REAGAN ADMINISTRATION IS PROPOSING FOR SEVERAL HUD PROGRAMS. THE SENATE COMMITTEE ON BANKING, HOUSING AND URBAN AFFAIRS HAS ALREADY INCLUDED THESE

FUNDING CUTBACKS AND REGULATORY CHANGES IN ITS VERSION OF THE HOUSING AND COMMUNITY DEVELOPMENT AMENDMENTS OF 1981, S. 1197. THIS BILL WAS HASTILY APPROVED WITHOUT SERIOUS CONSIDERATION FOR THE OPPOSING VIEWS OF LOW- AND MODERATE-INCOME NEIGHBORHOOD RESIDENTS, UPON WHOM IT WILL BRING MASSIVE HARDSHIP. IN A UNANIMOUS MINORITY OPINION (REPORT NO. 97-87), DEMOCRATIC MEMBERS OF THE SENATE COMMITTEE ON BANKING, HOUSING AND URBAN AFFAIRS WARNED THAT S. 1197 WOULD "SET THE STAGE FOR THE WASTAGE OF MILLIONS OF TAXPAYERS' DOLLARS" AND CONCLUDED THAT IT "DESPERATELY NEEDS RECONSIDERATION."

IN CONSIDERING S. 1197, YOU ARE ACTUALLY DECIDING WHETHER OR NOT TO WIPE OUT, IN JUST A FEW DAYS, MANY OF THE HOUSING AND COMMUNITY DEVELOPMENT GAINS WHICH TOOK NEIGHBORHOOD GROUPS SEVERAL YEARS TO ACHIEVE.

SPECIFICALLY, S. 1197 WOULD HAVE THE FOLLOWING ADVERSE EFFECTS ON OLDER NEIGHBORHOODS:

-- IT WOULD TERMINATE OR CRIPPLE MANY FEDERAL PROGRAMS WHICH ASSIST LOW- AND MODERATE-INCOME PEOPLE TO REPAIR, WEATHERIZE, BUY OR RENT DECENT HOUSING.

-- IT WOULD CANCEL MANY ONGOING, SUCCESSFUL PROGRAMS WHICH NOW ARE REVITALIZING OLDER NEIGHBORHOODS FOR THE BENEFIT OF THEIR CURRENT RESIDENTS.

-- IT WOULD DECREASE PRIVATE SECTOR INVESTMENTS NOW BEING LEVERAGED BY HUD PROGRAMS INTO DISINVESTED NEIGHBORHOODS.

-- IT WOULD REDUCE THE ALREADY INADEQUATE SUPPLY OF AFFORDABLE OLDER HOUSING BY PROVIDING FEWER REHABILITATION FUNDS. THUS, IT WOULD INCREASE HOUSING DETERIORATION, ABANDONMENT AND DEMOLITION AND ENCOURAGE ARSON, CAUSING MANY DEATHS AND HEAVY PROPERTY LOSSES.

--IT WOULD ELIMINATE MANY PRODUCTIVE PARTNERSHIPS FORMED IN RECENT YEARS BETWEEN COMMUNITY GROUPS, THE PRIVATE SECTOR AND LOCAL, STATE AND FEDERAL GOVERNMENT. THESE WELL-BALANCED PARTNERSHIPS -- RESULTING IN COST-EFFECTIVE, HIGHLY-LEVERAGED

COMMUNITY CONTROLLED REINVESTMENT -- HAVE PROVEN TO BE THE MODEL FOR RENEWAL OF DISINVESTED COMMUNITIES WITHOUT DISPLACEMENT OF CURRENT RESIDENTS.

--BY VIRTUALLY DEREGULATING REMAINING FUNDING, IT WOULD CHANNEL PRECIOUS TAX DOLLARS INTO ACTIVITIES AND NEIGHBORHOODS WHICH ARE NOT PRIVATELY DISINVESTED, THEREBY MAKING THOSE PUBLIC EXPENDITURES HIGHLY INEFFICIENT AND UNPRODUCTIVE.

--IT WOULD, BY THE CUMULATIVE EFFECT OF REDUCING THE FLOW OF HOUSING CAPITAL INTO PRIVATELY DISINVESTED AREAS, IMPERIL LOCAL TAX BASES.

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WE WARN THIS SUBCOMMITTEE EXPLICITLY TODAY THAT IF S. 1197 BECOMES LAW, GREAT SOCIAL UNREST WILL RESULT. WE NOTE THAT THE JUSTICE DEPARTMENT HAS JUST ESTABLISHED AN "EARLY WARNING SYSTEM" TO DETECT RACIAL VIOLENCE OVER ADMINISTRATION BUDGET CUTS. WE IN THE NEIGHBORHOODS CANNOT ACCEPT SUCH COSMETIC APPROACHES TO OUR NEEDS. LET THIS TESTIMONY BE YOUR EARLY WARNING.

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IN ADDITION TO THESE NEGATIVE RESULTS WHICH WILL OCCUR IF S. 1197 BECOMES LAW, PERHAPS THE MOST GLARING SHORTCOMING OF THE BILL IS ITS FAILURE TO HEED THE RECOMMENDATIONS OF THE GENERAL ACCOUNTING OFFICE. S. 1197 WOULD MINIMIZE FEDERAL OVERSIGHT POWERS AND WEAKEN OR WIPE OUT MANY FEDERAL "TARGETING" REQUIREMENTS IN THE COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM -- DESPITE THE RECENT GENERAL ACCOUNTING OFFICE REPORT WHICH RECOMMENDS THAT CONGRESS INCREASE FEDERAL GUIDANCE AND STRENGTHEN FEDERAL "TARGETING" TO INSURE THAT LOW- AND MODERATE-INCOME PEOPLE ARE THE PRINCIPAL BENEFICIARIES OF COMMUNITY DEVELOPMENT BLOCK GRANTS, AS REQUIRED BY FEDERAL LAW. THE REPORT, DATED APRIL 30, 1981, SHOULD BE OF PARTICULAR INTEREST TO THIS SUBCOMMITTEE BECAUSE IT WAS RELEASED BY SENATOR WILLIAM PROXMIRE (D-WIS.), THE RANKING MINORITY MEMBER OF THE SENATE COMMITTEE ON APPROPRIATIONS.

IN CONTRAST TO S. 1197, THE HOUSE SUBCOMMITTEE ON HOUSING AND COMMUNITY DEVELOPMENT HAS INTRODUCED ITS VERSION OF THE HOUSING

AND COMMUNITY DEVELOPMENT AMENDMENTS OF 1981, H. R. 3534. NATIONAL PEOPLE'S ACTION URGES THIS SUBCOMMITTEE TO ADOPT H. R. 3534 WHICH CALLS FOR NO FUNDING CUTBACKS AND NO DEREGULATION OF KEY HUD NEIGHBORHOOD REVITALIZATION PROGRAMS.

H. R. 3534 SUPPORTS THE NATIONAL PEOPLE'S ACTION AGENDA FOR THE 1980'S -- MORE INTEREST RATE SUBSIDIES TO KEEP HOUSING AFFORDABLE, MORE ECONOMIC DEVELOPMENT ACTIVITY FOR MORE NEIGHBORHOOD JOBS, AND MORE ENERGY WEATHERIZATION FOR LOWER HEATING BILLS.

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WE WOULD LIKE TO DETAIL SIX KEY NEIGHBORHOOD PROGRAMS AND HOW THEY WOULD BE ADVERSELY AFFECTED BY S. 1197.

1. NEIGHBORHOOD SELF-HELP DEVELOPMENT PROGRAM
2. SECTION 312 LOW-INTEREST REHABILITATION LOAN PROGRAM
3. COMMUNITY DEVELOPMENT BLOCK GRANTS
4. URBAN DEVELOPMENT ACTION GRANTS
5. SECTION 8 AND PUBLIC HOUSING SUBSIDIZED RENTAL HOUSING PROGRAMS
6. GOVERNMENT NATIONAL MORTGAGE ASSOCIATION SECTION 8 TANDEM PROGRAM

NEIGHBORHOOD SELF-HELP DEVELOPMENT PROGRAM HAS AIDED 125 NEIGHBORHOOD GROUPS TO LEVERAGE $206.5 MILLION -- AN OUTSTANDING RATIO OF 14 TO 1 -- IN PUBLIC-PRIVATE PARTNERSHIPS FOR NEIGHBORHOOD REVITALIZATION. ITS BENEFITS INCLUDE 4,506 JOBS, INCREASED TAX BASES, LOWER NEIGHBORHOOD UNEMPLOYMENT, AND INCREASED U.S. INCOME TAX REVENUES. S. 1197 THREATENS TO TERMINATE SELF-HELP'S BUDGETED $9 MILLION IN FISCAL 1982. AND CURRENT RECISSIONS HAVE ALREADY SUSPENDED SELF-HELP FUNDING FOR FISCAL 1981, WITHHOLDING $8.2 MILLION, OR 91% OF THE ALREADY AUTHORIZED FUNDING. THIS HIGHLY COST-EFFECTIVE AND PIONEERING PROGRAM DESERVES ITS FULL APPROPRIATIONS OF $9 MILLION FOR FISCAL YEARS 1981 AND 1982.

SECTION 312 LOW-INTEREST REHABILITATION LOAN PROGRAM HAS ASSISTED IN THE REHABILITATION OF OVER 100,000 DWELLING UNITS, MAKING MANY VACANT UNITS INTO AFFORDABLE HOMES FOR LOW- AND

MODERATE-INCOME PEOPLE IN CONJUNCTION WITH THE URBAN HOMESTEADING PROGRAM. WITH INTEREST RATES NOW PEGGED TO INCOME, SECTION 312 IS DESPERATELY NEEDED TO LESSEN THE EFFECTS OF HIGH PREVAILING INTEREST RATES. S. 1197 WOULD TERMINATE ALL NEW SECTION 312 FUNDING IN FISCAL 1982, LEAVING ONLY A SMALL POOL OF REVOLVING FUNDS FROM LOAN REPAYMENTS. ONLY URBAN HOMESTEADING AND MULTI-FAMILY DWELLINGS WOULD BE ELIGIBLE FOR THE REDUCED FUNDING, DENYING REHABILITATION LOANS FOR NON-HOMESTEAD SINGLE-FAMILY DWELLINGS AND COMMERCIAL PROPERTIES. WE OPPOSE THE CURRENT RECISSIONS WHICH HAVE ALREADY SUSPENDED NEARLY $111 MILLION, OR 85% OF THE FISCAL 1981 AUTHORIZATION. FURTHERMORE, SECTION 312, ONE OF THE BEST PROGRAMS NOW AVAILABLE TO PRESERVE OLDER HOUSING FOR LOW- AND MODERATE-INCOME PEOPLE, DESERVES TO BE REAUTHORIZED AS A DISTINCT PROGRAM IN FISCAL 1982 AT ITS PROPOSED LEVEL OF $134 MILLION, IN ADDITION TO THE LOAN REPAYMENT FUND.

COMMUNITY DEVELOPMENT BLOCK GRANTS (CDBG) IS BY FAR THE LARGEST HUD PROGRAM WHICH S. 1197 THREATENS TO DEREGULATE. PROPOSED REGULATIONS FOR CDBG WOULD CERTAINLY HAVE AN EQUALLY DIRE EFFECT ON LOW- AND MODERATE-INCOME NEIGHBORHOODS AS WOULD THE PROPOSED FUNDING REDUCTIONS.

SPECIFICALLY, S. 1197 THREATENS TO:

- -- GUT THE CITIZEN PARTICIPATION PROCESS, DENYING LOW- AND MODERATE-INCOME PEOPLE A VOICE IN PLANNING AND SPENDING OF CDBG FUNDS.
- -- MAKE IT EASIER FOR ENTITLEMENT JURISDICTIONS TO FUNNEL CDBG FUNDS TO UPPER-INCOME NEIGHBORHOODS WITHOUT FEAR OF HUD DISAPPROVAL.
- -- PERMIT CDBG FUNDS TO BE SPENT ON PUBLIC SERVICES (CHILD-CARE, EDUCATION, ETC.) IN UPPER-INCOME NEIGHBORHOODS AT THE EXPENSE OF LOW- AND MODERATE-INCOME NEIGHBORHOODS.
- -- PERMIT ENTITLEMENT JURISDICTIONS TO GRANT CDBG FUNDS TO FOR-PROFIT ENTERPRISES WITHOUT GUARANTEES OF JOB

CREATION OR RETENTION OR TARGETING OF JOBS TO THE UNEMPLOYED OR UNDEREMPLOYED.

-- PERMIT ENTITLEMENT JURISDICTIONS TO MAKE UNLIMITED ALTERATIONS IN THEIR CDBG PROGRAMS AFTER THEIR APPLICATIONS HAVE BEEN ACCEPTED, WITHOUT PUBLIC NOTICE.

-- SHIFT SMALL CITIES' CDBG ADMINISTRATION TO STATE GOVERNMENT - WITH NO HUD MONITORING REQUIRED AND NO ASSURANCE THAT THESE CDBG FUNDS WOULD BENEFIT LOW- AND MODERATE-INCOME PEOPLE - AND ELIMINATE SMALL CITIES' HOUSING ASSISTANCE PLAN REQUIREMENTS, LETTING STATES IGNORE THE SUBSTANTIAL HOUSING ASSISTANCE NEEDS OF SMALL RURAL COMMUNITIES.

-- REPEAL THE DOMINANT LEGISLATIVE OBJECTIVE OF CDBG - TO GIVE PRIMARY BENEFIT TO LOW- AND MODERATE-INCOME PEOPLE - AND MAKE IT CO-EQUAL WITH "PREVENTION OR ELIMINATION OF SLUMS AND BLIGHT" AND "MEETING URGENT NEEDS." THIS CHANGE EFFECTIVELY WOULD OPEN THE DOOR TO A NEW WAVE OF "URBAN REMOVAL" DISPLACEMENT.

IN SUMMARY, THESE PROPOSED CDBG REGULATORY CHANGES THREATEN TO DIVERT PRECIOUS FEDERAL RESOURCES AWAY FROM THOSE PEOPLE AND BUSINESSES WHO NEED THEM MOST AND TOWARDS ACTIVITIES AND NEIGHBORHOODS WHICH ARE NOT PRIVATELY DISINVESTED. THIS WOULD EFFECTIVELY MAKE SUCH EXPENDITURES INEFFICIENT AND UNPRODUCTIVE AS DUPLICATIONS OF ALREADY ADEQUATELY CAPITALIZED PROGRAMS AND SERVICES.

WE ALSO STRONGLY OBJECT TO THE PROPOSED $135 MILLION - OR 5% - FUNDING REDUCTION FOR LARGE CITIES AND URBAN COUNTIES CDBG ENTITLEMENT JURISDICTIONS IN FISCAL YEAR 1982.

URBAN DEVELOPMENT ACTION GRANTS ARE ALSO THREATENED, BY DEREGULATION, TO BECOME VIRTUALLY MEANINGLESS TO LOW- AND MODERATE-INCOME NEIGHBORHOODS. IN ADDITION TO THE ABOVE MENTIONED LOSS OF CITIZEN PARTICIPATION AND LOOSER APPLICATION REQUIREMENTS, S. 1197 PROPOSES TO ABOLISH THE LEGISLATED UDAG REQUIREMENT

FOR A "REASONABLE BALANCE" BETWEEN NEIGHBORHOOD, COMMERCIAL, AND INDUSTRIAL PROGRAMS. DESPITE EVIDENCE THAT NEIGHBORHOOD UDAG PROJECTS HAVE PRODUCED GREATER TAX BENEFITS, MORE PERMANENT JOBS AND MORE ACTUAL LEVERAGING (AND THUS MORE BENEFIT TO LOW- AND MODERATE-INCOME NEIGHBORHOODS), S. 1197 WOULD REQUIRE NO NEIGHBORHOOD PROJECTS. IN FACT, WE HAVE LEARNED THAT THE HUD CENTRAL OFFICE HAS ALREADY ORDERED HUD AREA OFFICES TO REJECT ALL NEIGHBORHOOD UDAG PROPOSALS, DESPITE THE FACT THAT NO LEGISLATIVE ACTION HAS YET BEEN TAKEN TO MANDATE SUCH A POLICY CHANGE.

WE OPPOSE THE REDUCTION OF UDAG FUNDING FROM $675 TO $500 MILLION, HOWEVER WE ARE EQUALLY INSISTENT THAT LEGISLATIVE REQUIREMENTS BE KEPT WHICH WILL INSURE A REASONABLE BALANCE FOR LOW- AND MODERATE-INCOME NEIGHBORHOODS.

SECTION 8 AND PUBLIC HOUSING SUBSIDIZED RENTAL HOUSING PROGRAMS ARE ALSO IMPERILED BY S. 1197. COMBINED, THE TWO PROGRAMS WOULD BE REDUCED BY 110,000 UNITS TO 150,000 UNITS. THIS WILL FURTHER REDUCE THE SUPPLY (CONSTRUCTION, REHABILITATION, SUBSIDIZATION) OF AFFORDABLE LOW- AND MODERATE-INCOME RENTAL HOUSING. IN MANY CITIES TODAY, PEOPLE MUST REMAIN ON WAITING LISTS FOR SEVERAL YEARS TO OBTAIN SECTION 8 HOUSING. S. 1197 WOULD ONLY INCREASE THAT BACKLOG. WE OPPOSE BOTH THE CURRENT RECISSION AND PROPOSED FISCAL 1982 CUTBACKS IN BUDGET AUTHORITY FOR SECTION 8 AND PUBLIC HOUSING OF $11.8 BILLION. WE INSIST THAT THIS SUBCOMMITTEE APPROPRIATE FUNDS FOR AT LEAST 250,000 ASSISTED HOUSING UNITS IN FISCAL YEAR 1982.

WE ALSO OPPOSE THE DISCRIMINATORY PROPOSED AMENDMENT WHICH WOULD DENY FUTURE SECTION 8 COMMITMENTS FOR NEW AND REHABILITATED UNITS TO CITIES WITH RENT CONTROL. THIS REGULATION IS COUNTER TO THE REAGAN ADMINISTRATION'S STATED OBJECTIVE OF REDUCING FEDERAL INTERVENTION IN LOCAL DECISION-MAKING, AND IT FAILS TO ADDRESS THE REAL ISSUE, WHICH IS SKYROCKETING RENTS DUE TO A LOSS OF AFFORDABLE RENTAL HOUSING.

Low-income public housing tenants would, under S. 1197, be required to pay higher rents every year for the next five years, increasing the amount of rent paid by public housing tenants from 25% of adjusted income to 30%. If Congress approves this amendment, public housing tenants -- the truly needy -- will be forced to pay an estimated $1.72 billion in additional rent over the next five years.

We insist that this subcommittee oppose these substantial rental increases which would impose an added burden on lower income people who are already hardest hit by skyrocketing inflation.

Government National Mortgage Association Section 8 Tandem Program provides mortgage financing assistance to subsidized Section 8 assisted-housing projects. GNMA Section 8 tandem assistance reduces debt service requirements and thereby makes these projects economically feasible. Interest rates are not less than 7 1/2% on these projects. Despite the obvious need to continue this program during the current period of skyrocketing interest rates, the Reagan Administration and S. 1197 would stop any new GNMA Section 8 applications from receiving assistance after February 13, 1981. Thus, S. 1197 would abruptly render unfeasible many urgently needed future Section 8 projects. We insist that the productive GNMA Section 8 tandem program not be phased out, but instead receive sufficient appropriations to meet the substantial demand for lower interest mortgage financing of Section 8 assisted-housing projects.

S. 1197 also would adversely affect low- and moderate-income neighborhoods by "folding" several programs into the CDBG program, without providing any additional funding to support the newly-included programs. We are especially concerned here about the Neighborhood Self-Help Development and Energy Weatherization programs.

SELF-HELP'S SUCCESS IS DIRECTLY ATTRIBUTABLE TO ITS AUTONOMOUS STAFF WHICH HAS PIONEERED A NATIONAL NETWORK OF TECHNICAL ASSISTANCE, TRAINING AND INFORMATION-SHARING TO THOUSANDS OF NEIGHBORHOOD SELF-HELP GROUPS. THE OVERWHELMING NEED AND DEMAND FOR THE SELF-HELP PROGRAM IS SHOWN BY THE NEARLY 1,300 APPLICATIONS FOR SELF-HELP GRANTS WHICH HAVE BEEN SUBMITTED NATIONALLY IN THIS PROGRAM'S SHORT TWO-YEAR HISTORY. MOREOVER, ALL OF THE NEIGHBORHOOD SELF-HELP GRANTS HAD THE SUPPORT OF LOCAL GOVERNMENT DUE TO THE SELF-HELP REQUIREMENT THAT EACH SELF-HELP GRANT BE APPROVED BY THE MAYOR OR CHIEF EXECUTIVE OFFICER. ITS UNUSUALLY HIGH LEVERAGING RATIO IS FAR ABOVE THE CDBG OR UDAG AVERAGE AND IT DESERVES CONTINUED INDEPENDENT FUNDING STATUS. ENERGY WEATHERIZATION, AN EXTREMELY URGENT NEED FOR FAMILIES FACING SKYROCKETING HEATING BILLS, WILL CERTAINLY SUFFER IN FUNDING IF IT IS FORCED TO COMPETE WITH ALL THE OTHER CDBG ACTIVITIES.

SUMMARY

THE GREATEST ISSUES IN AMERICAN NEIGHBORHOODS TODAY ARE LOWER INTEREST RATES, JOBS, AND LOWER ENERGY BILLS. THE ADMINISTRATION'S PROPOSED S. 1197 WOULD EFFECTIVELY SERVE TO MAKE WORSE ALL THREE OF THESE PROBLEMS. WITHOUT ADEQUATE REVIEW, THE SENATE COMMITTEE ON BANKING, HOUSING AND URBAN AFFAIRS HAS NARROWLY PASSED A BILL WHICH WOULD DESTROY SEVERAL YEARS OF PROGRESS IN DEVELOPING SOUND, COST-EFFECTIVE, PUBLIC-PRIVATE PARTNERSHIPS TO SAVE AMERICA'S NEIGHBORHOODS. THE ISSUES IN S. 1197 AND H. R. 3534 ARE VERY CLEAR: YOU EITHER FAVOR THE SURVIVAL OF OUR NEIGHBORHOODS OR YOU ARE WORKING TO DESTROY THEM.

NATIONAL PEOPLE'S ACTION URGES THE U.S. SENATE SUBCOMMITTEE ON HUD AND INDEPENDENT AGENCIES TO VOTE AGAINST S. 1197 WHICH WOULD CAUSE IRREPARABLE HARM TO OLDER NEIGHBORHOODS; AND VOTE FOR H.R. 3534 WHICH WOULD ENSURE THE CONTINUED REVITALIZATION OF LOW- AND MODERATE-INCOME NEIGHBORHOODS BY REJECTING DEREGULATION, BY OPPOSING RECISSIONS IN FISCAL YEAR 1981, AND BY PROVIDING adequate appropriations in Fiscal Year 1982 for the following aforementioned HUD programs: Neighborhood Self-Help Development, Section 312 Low Interest Rehabilitation Loans, Community Development Block Grants, Urban Develpoment Action Grants, Section 8 and Public Housing Subsidized Rental Housing, and Government National Mortgage Association Section 8 Tandem.

STATEMENT CHALLENGED

Senator GARN. There is a vote on the very amendment you have just asked for in S. 1197. I think you should know I intend to vote against Senator Proxmire's amendment. I can't stay long, but let me say that your testimony disturbs me very much. I don't mean to be rude. It is certainly your right, and the reason for this hearing is for people to express their viewpoint. Certainly, in the years I have been in public office, I respect different views. Your testimony does not disturb me because of the fact that you disagree with my position. What does disturb me is the statement: "The issues in S. 1197 or H. R. 3534 are very clear: You either favor the survival of our neigborhoods or you are working to destroy them." Do you believe that?

Ms. MCADAMS. I believe that——

Senator GARN. Is it necessary to put that kind of rhetoric in a statement? What you are saying to me because I support S. 1197, regardless of the fact that I was a city commissioner, a mayor, and an officer of the National League of Cities, that I want to destroy our neighborhoods. If you would check my record, I would think that you would find that I was a very popular and very progressive mayor who worked for housing and worked for all communities. However, your testimony is filled with cute little statements which serve no purpose to make me more sympathetic, but accuse all of us who support a certain position of destroying the neighborhoods. I ask you if that statement supports your case? If you think I want to destroy the neighborhoods after 13 years of having been a mayor, I suggest you go to Salt Lake City and ask the people what they thought of me as a mayor and ask them if they thought I was trying to destroy the neighborhoods. I can give you examples of the waste and inefficiency by the hour, of working with HUD that defied my efforts to build houses for our low-income people. I finally got to the point that I was so fed up with the delays and the rules and regulations of this Congress that I said, "To hell with HUD," and I went to the Utah State Legislature to appropriate half a million dollars, matched out of the city's own funds, so that in 3 months we could put people who were living in cars in homes.

I am for neighborhoods and am as much committed to assisting people in them as you or anyone else. You can disagree with us on our methods, but good heavens, to make a statement like you did in your testimony, I can't just leave it unchallenged, particularly on the basis of my record of working for individuals.

We share the same goals. When I was mayor of Salt Lake City, the original CDBG program had approximately 2,600 pages of rules and regulations. Can you imagine when the city applied for our first CDBG what my staff and I thought of the 2,600 pages of rules and regulations?

That is the difference, ma'am, of methods; I am trying to achieve a method so that more Federal dollars actually help people rather than being gobbled up by a bureaucracy of redtape and rules and regulations.

I started rejecting Federal funds and looking at local sources. The record is there. I am not talking about the future; I am talking about the past and how in Salt Lake City we were able to put people into houses.

So may I ask again, Do you really believe that the issue is that narrowly defined, that if we disagree with you that we are working to destroy the neighborhoods of this country?

Ms. McAdams. It seems to me that, perhaps, I used the wrong terms. What I meant was we have come a long way, I am sure, in Salt Lake City, as well as in Cleveland—Cleveland is just now starting to turn around and become a very, very viable working city. I come from an area that is very old, it is near the steel mills—to see that our work is gaining in accomplishments. No; I know you are not going to destroy our neighborhoods.

CLEANER PROCESS SOUGHT

Senator Garn. But at what cost? Just think how much more you could have accomplished if the waste in HUD was reduced; how many more homes and neighborhoods we could have helped if we had had a cleaner process? I am not trying to destroy neighborhoods. I am trying to get more dollars into neighborhoods by cleaning up a process that has been incredibly wasteful.

I served on the board of the National League office as first vice president to Tom Bradley, the mayor of Los Angeles. Other members of the board included Dick Hatcher, the mayor of Indianapolis, as well as the mayor of Cleveland at that time. If you check, they will say, "Hey, we may disagree with Jake Garn on certain issues and how we get there," but no one would accuse me of wanting to destroy the neighborhoods because I support S. 1197. Some day, if the bill passes, you may come back and say, "Hey, Jake Garn, I told you so; you were wrong." This is not an issue on goals for cities of the country. It is a difference of opinion of mechanical structure and how we handle that.

Ms. McAdams. Then I think it is a little disagreement we have, on the mechanics of it. I want to save our neighborhoods. I want a nice, safe place to live, and I think that is perhaps the objective of both of us.

Senator Garn. Then come in and tell us that you disagree, that you think S. 1197 is wrong; you feel there is a better method than the method proposed, and we will respect that testimony. We have no great pride of authorship of any particular details, but to accuse those of us who share a different viewpoint of wanting to destroy the neighborhoods of this country isn't appropriate. I have to catch a vote, but your statements hurts me deeply as a man who spent 14 years of my life working for the cities of this country. I am upset, but you will always be welcome before this committee to tesify on the substance of issues. I don't think your accusations are helpful nor does it help to question people's motives or intent. I don't question yours at all.

I have no doubt about your sincerity of trying to help the neighborhoods of your community and the Nation. I think mine are just as sincere. The differences between us are simply the methods of achieving the goals and I respect the fact that you do have a different view.

I am sorry, I have to run and vote.

STATEMENT OF TOM GWIN, NORTHWEST BRONX COMMUNITY AND CLERGY COALITION—NEW YORK

Mr. GWIN. I am scheduled to testify next, but I am also with Northwest Bronx Community and Clergy Coalition. I would like to comment on what you just said. I will speak for myself, then. I would not come here and accuse you of trying to destroy neighborhoods. I don't know if that is your intention. I very much doubt that it is, but after looking over S. 1197, it seemed to us that the effect of S. 1197 might be to destroy many of the gains that we have made in our neighborhoods over the past few years. That is the way it appeared to us.

Senator GARN. I am going to have to run. That is the bell that says that I am going to miss the vote. Maybe you would like me to miss it, but I have to go.

Would you please continue with your testimony. I promise you, I will read the remainder of your comments, not only in response to my comments here, but your testimony as well.

Thank you very much.

Mr. GWIN. OK; thank you.

Ms. FISHER. Why don't you continue, Mr. Gwin?

Mr. GWIN. My name is Tom Gwin.

I represent the National People's Action in the Northwest Bronx Community and Clergy Coalition. The coalition is an umbrella organization which encompases 11 affiliated neighborhood associations.

I would like to put in the record for Senator Garn's benefit, also, that I chose New York, and I think I made a good choice. The West is nice, but so is New York. I think we deserve a chance, as well.

The boundaries of the northwest Bronx area stretch from blighted areas such as West Katona up to the luxury highrises of Riverdale.

I am sure that everyone has heard aout the Bronx and you have probably seen the TV specials and the press stories about the holacaust that occurred there. President Carter dramatized the blight of the south Bronx and a year ago, Presidential candidate Reagan stood amongst the rubble of Charlotte Street and promised to help. I am not here to talk about the destruction of the Bronx. I am here to tell you another side of the Bronx story, which is that there is a large group of people in the northwest Bronx who refuse to accept the idea that the entire borough of the Bronx was to become one huge slum.

I have been fighting against this cancer that has threatened to engulf a very large portion of the city of New York. We have been having a considerable amount of success against incredible odds because we believe in our motto, which is, "Don't move, improve."

8-YEAR STRUGGLE

We have been struggling for the past 8 years to stabilize those of our neighborhoods which are still viable and to restore those which have already been devastated. One example of what can be done is an agreement that we recently signed with 10 banks and thrift institutions that serve our community, one of which was Anchor Savings, the representative of which testified here a short while ago on behalf of the same position.

These kinds of partnerships, obtained after years of negotiations, have at long last begun to loosen investment capital, which was our great need, which will permit maintenance and restoration of the older housing stock in our areas. I cannot emphasize too much how vital the housing issue is to our community. We have seen repeated over and over in the neighborhoods of the south Bronx the cycle of older buildings which usually are quite structurally sound falling into disrepair and neglect, then abandonment, and then fire.

We are now beginning to halt that trend in the northwest Bronx. We are actually even pushing back the other way. The prophets of doom, of which there were many, told us 10 years ago that by 1975 or 1976 the northwest Bronx would be in the same situation as the south Bronx, but it didn't happen. It is not going to happen because we are not moving. What we have accomplished and are accomplishing was done through the united efforts of a lot of community people. We have survived the fiscal crisis of New York City and now, just when we are really beginning to feel the tide is beginning to turn, Washington wants to come and pull the rug out from under the whole thing.

FABRIC OF PROGRAMS THREATENED

Now, if the approach taken in S. 1197 is better, I fail to see how, because it destroys the fabric of programs that we have carefully built up over a long period of time. That is what it appears to me it will do. The people of the northwest Bronx have made the effort. We can maintain and revitalize the middle-income population of the city of New York when the city of New York desperately needs to hold on to its taxpayers. Even more important is the human impact of this. The northwest Bronx has always been an attractive neighborhood and a good place to bring up a family. Largely due to the efforts of our organization, large areas of the northwest Bronx are attracting large numbers of families. We believe there is a need for a neighborhood such as ours, and because of the inflated costs of new housing today and the loss of purchasing power of many people, the average family cannot afford new housing in New York. But our neighborhoods still contain a lot of older housing which is very good and which should be maintained.

To maintain it is going to require investment money. The only way we currently can leverage this private investment money is through the aid of the HUD programs that S. 1197 is threatening to destroy. We need this—I repeat—to leverage private investment money. We need it to get off the ground.

We are just getting started. We are not strong enough yet to be able to do this without this aid. The community development grant program has been an essential element in our efforts to improve our neighborhoods, particularly in the area of housing. CDBG funds, funneled through the New York City article 8(a), a low-interest loan program, has been used for moderate rehabilitation. A total of 1,448 units of northwest Bronx housing are in the process of being or have been rehabilitated. Under this program, the joint participation loan program is rehabilitating another 386 units.

I know personally of several situations where buildings that were thought to be on the road to abandonment were turned around by tenant organizations and with the aid of joint participation of article 8(a) loans, and are now fully occupied and actually very viable buildings.

The CD funds have also contributed to general uplift of our neighborhood improvements through street repairs, park projects, improved public buildings, and commercial revitalization projects, among others.

We have been critical in the past of the way CDBG is run because it has taken too long for funds to filter down through the city bureaucracy to the community. We are as much concerned about the waste that is occurring as a result of too much redtape as Senator Garn or anyone else is. As a matter of fact, we fought this and spent a good part of our efforts in fighting this.

However, it was the leverage that we had through the CD monitoring process. That is the only thing that really helped us to get—to force the city bureaucracy to get—to break up this log jam and to get the money down there the results can be felt. S. 1197 takes away the safety guard that we had against foot-dragging by the city administrators. It will result in a net loss of available funding.

HOME OWNERSHIP PROGRAMS

Section 312 home ownership programs are also of vital importance to us. It is just getting off the ground in our area, but it shows promise of being a useful tool to encourage maintenance of private homes, which account for as much as 43 percent of land use in some of our neighborhoods. Their impact is greater than that, because they act very much as a stabilizing influence.

Under the urban development action grant program, we have obtained $17.78 million for New York City, a large portion of which is slated for use in the northwest Bronx in a housing energy project, which would go a long way toward also upgrading our housing, maintaining our housing. These funds, which are to finance weatherization repairs, will be completely lost under S. 1197.

HOUSING ASSISTANCE PROGRAM

The section 8 housing assistance program has also played a key role. It has been the only source of new housing in parts of the northwest Bronx which have already fallen under the arsonist's torch. At least 2,443 units of housing are currently completed or under construction in the northwest Bronx as a result of this program.

We believe the organization of this program needs to be reviewed because sometimes—and we have had bad experiences with it in the past—sometimes it encourages speculation and the methods are not always ethical, but it is essential that this program continue in some form in order to alleviate the pressure caused by the acute shortage of low-income housing in New York.

NEIGHBORHOOD SELF-HELP PROGRAM

Another program that is threatened, which is vital to us, is the neighborhood self-help program. In some cases, we are using the program to set up management organizations that directly run apartment buildings. These funds are helping, as well, to provide staff for our 11 local associations, which is absolutely essential to serve as a liaison between tenants, landlords, and lending institutions. Without this staff, many of our neighborhood revitalization efforts would fall apart. These people have been the catalysts and the resource centers for literally thousands of individual tenant groups, block associations, community security patrols, and civil organizations.

We believe very strongly that it would be self-defeating to destroy or cut back these programs. It is far more effective to maintain existing housing than to allow the cycle of abandonment and arson and then reconstruction to continue. The economic cost is great, but far more staggering than that is the human cost. We feel that it is no exaggeration to say that possibly hundreds or even thousands of people could die as a result of this, not to mention the amount of human suffering that would occur, if this cycle is not broken.

Many people already have died and suffered as a result of what happened in the south Bronx. We do not want to see this repeated in the north Bronx. We are determined that it will not be.

Mr. BERGER. Let me interrupt for a moment.

We are running about 30 minutes behind. We have 10 individuals left.

Mr. GWIN. I am almost done.

Mr. BERGER. If you would summarize your remaining remarks, I would appreciate it.

Mr. GWIN. That is exactly what I would like to do.

The people of the Bronx would like to turn the classic example of urban blight into urban revival. That is what I have to say. We do not support 1197, we support H. R. 3534.

Mr. BERGER. Thank you very much.

[The statement follows:]

STATEMENT OF TOM GWIN, NATIONAL PEOPLE'S ACTION AND NORTHWEST BRONX COMMUNITY AND CLERGY COALITION

My name is Tom Gwin. I am here representing National People's Action and the Northwest Bronx Community and Clergy Coalition. The Coalition is an umbrella organization that encompasses eleven (11) affiliated neighborhood associations. It's boundaries stretch from the blighted areas of West Tremont and Crotona to the luxury high rises of Riverdale.

I'm sure you've all heard about the Bronx. Probably everyone here has seen the T.V. specials or the paper stories about the holocaust that has occured there. President Carter dramatized the blight of the South Bronx and then, last year presidential candidate Reagan also stood amongst the rubble of Charlotte Street and promised to help.

I'm here today, though, to tell you another side of the story of the Bronx. I'm here to talk about a group of citizens in the Northwest Bronx who refused to accept the idea that the entire boro was destined to turn into a giant slum. Through their efforts, the cancer that has spread steadily northward for the past twenty (20) years is finally being contained. Our motto is, Don't move! Improve!

We have been struggling for the past eight years to stabilize those of our neighborhoods which are still viable and to restore those which have already been devastated. One example of what can be done is an agreement signed recently with ten banks and financial institutions that serve our community, after four (4) years of negotiation which has established a partnership that will at long last, loosen the investment capital to permit maintenance and restoration of our older housing stock. I cannot emphasize too much how vital the housing issue is to our community. We have seen the cycle repeated over and over in the neighborhoods of the South Bronx, of older buildings, which usually are quite sound structually, falling into disrepair and neglect, then abandonment, then fire. We are now beginning to halt the trend in the Northwest Bronx. We are actually even pushing back the other way. The prophets of gloom predicted the Northwest Bronx would have already fallen into blight by five (5) years ago; but, today we are still there and most of our neighborhoods are still basically sound, AND WE'RE NOT MOVING'.

What we have accomplished and continue to accomplish was done through the united efforts of a lot of community people. We have survived the fiscal crisis in New York City and now, just when we are really feeling the tide is beginning to turn, Washington wants to come along and pull the rug out from under us.

The people of the Northwest Bronx have made the effort. We can maintain and revitalize a largely middle income community at a time when the City of New York desperately needs to hold on to its middle income taxpayers. Even more important, is the human significance of this. The Northwest Bronx has always been an attractive neighborhood and a good place to raise a family. Largely through the efforts of our community organizations, some of our neighborhoods have recently been attracting a large number of young, upwardly mobile families. We believe there is a real need for neighborhoods like ours. Because of the inflated cost of new housing today and the loss of purchasing power of the average family, new housing is beyond the reach of most middle income New Yorkers. However, our neighborhoods have a lot of affordable, older, but still very sound housing. All that is needed is that this housing be maintained.

To maintain it will require investment funds. The only way we can currently leverage the private investment funds needed to keep our communities healthy is through the aid of the HUD programs that S 1197 threatens to destroy.

I would like to give you a few illustrations of the importance of the programs we are discussing in our communities.

The Community Development Block Grant program has been an essential element in our efforts to improve our neighborhoods - particularly in the area of housing. CDBG funds, funneled through the New York City's Article VIII A low interest housing loan program have been used for moderate rehabilitation of one thousand, four hundred forty-eight (1,448) units of Northwest Bronx housing. The Joint Participation Loan Program is rehabing another three hundred eighty-six (386) units. (These figures include units completed, under construction, or in the final stages of closing.) Community

Development funds have also contributed to the general uplift of our neighborhoods' image through street repairs, parks' projects, improvements to public buildings and commercial revitalization projects, among others. We have been critical in the past of the way the Community Development Block Grant program is run because it has taken too long for funds to filter down through the city bureaucracy to the community. However, it was the leverage we had through HUD monitoring that helped to get the wheels turning at City Hall. Just now, the bureaucratic log-jam is beginning to break up and results are being felt. S 1197 takes away the best safeguard we had against foot-dragging by the city administrators. It will result, also, in a net loss of available funding.

The Section 312 homeowner loan program is also of vital importance to us. It is just getting off the ground in our area, but shows promise of being a useful tool to encourage maintenance of private homes, which account for as much as 43% of land use in some of our neighborhoods. The impact private homeowners have is even greater because they act as a stabalizing influence.

Under the Urban Development Action Grant programs, we have obtained seventeen point eighty-seven million dollars ($17.87 million) for New York City, a large portion of which is slated to be used in the Northwest Bronx for a housing energy project which will go a long way towards upgrading our housing. These funds to finance weatherization repairs will be completly lost under S 1197.

The Section 8 housing assistance program has also played a key role. It has been the only source of new housing in the parts of the Northwest Bronx that have already fallen under the arsonist's torch. Two thousand, three hundred forty-three (2,343) units of housing are currently completed or under construction in the Northwest Bronx as a result of this program. We believe the organization of this program needs to be reviewed because it sometimes encourages speculators whose methods are not always ethical. But, it is essential that this program continue, in order to alleviate the pressure caused by the acute shortage of housing for low income families.

Another program that is threatened, which is vital to us, is the Neighborhood Self-help Program. We are using this program to set up management corporations that directly run apartment buildings. These funds are helping, as well, to provide staff for our eleven (11) local associations to serve as a liaison between community residents, landlords and lending institutions. Without this staff, many of our neighborhood stabalization and revitalization efforts would fall apart. These people have been the catylist and resourse center for literally thousands of individual building tenant groups, block associations, community security patrols and civic organizations.

We believe very strongly that it would be self-defeating to destroy or cut back these programs. It is far more cost-effective to maintain existing housing than to allow the cycle of abandonment, arson and then reconstruction to continue. The economic cost is great indeed, but far more staggering would be the human cost if S 1197 is passed. We feel it is no exageration to say literally hundreds or even thousands of deaths and countless human suffering would almost certainly be the result of a policy that takes away the base we need to maintain and restore the Northwest Bronx. America can ill affort either the economic or the human waste that would result from allowing another South Bronx to occu in the Northwest Bronx. We ask you members of this committee to back up the courageous efforts of the people of the Northwest Bronx and help a classic example of urban blight turn itself into an example of urban revival!

Support the House version of the Housing and Community Development ammendments as expressed in HR 3534. Please do not support S 1197.

STATEMENT OF GEORGE LAWSON, SOUTH AUSTIN COALITION COMMUNITY COUNCIL, SOUTH AUSTIN REALTY ASSOCIATION, CHICAGO ILL.; NATIONAL PEOPLE'S ACTION

PREPARED STATEMENT

Mr. BERGER. The next witness—I am afraid we will have to move on.

Mr. LAWSON. I am the next witness.

Mr. BERGER. Are you Mr. Lawson?

Mr. LAWSON. Yes.

Mr. BERGER. OK, go ahead.

Mr. LAWSON. I am George Lawson, South Austin Coalition Community Council, South Austin Realty Association, Chicago, Ill. I am not going to read my testimony here because it seems to me that every person ahead of me has had the same discussion tha I have on S. 1197. We in Chicago oppose S. 1197, because it does not offer us anything in return. It seems that it is a cutoff period in our community.

In a community such as ours, in which most people today have spoken of being an agent for something, we happen to be the people that live there. Tax dollars are necessary for us to draw private money into our community. If S. 1197 is passed, that is going to cut off and we will go back, again, to welfare, which also is going to be cut off; then where will it leave the people in the communities? I want the gentlemen that vote for S. 1197 to keep this in mind when they go to vote: There are many people that go to the polls also that will be affected by their decision.

Thank you very much.

Ms. FISHER. Thank you.

[The statement follows:]

STATEMENT OF GEORGE LAWSON, SOUTH AUSTIN COALITION COMMUNITY COUNCIL, SOUTH AUSTIN REALTY ASSOCIATION, AND NATIONAL PEOPLE'S ACTION

MY NAME IS GEORGE LAWSON. I AM HOUSING COMMITTEE CHAIRMAN FOR THE SOUTH AUSTIN COALITION COMMUNITY COUNCIL AND I AM ALSO REPRESENTING THE SOUTH AUSTIN REALTY ASSOCIATION.

SOUTH AUSTIN IS A LOWER INCOME, MINORITY NEIGHBORHOOD ON CHICAGO'S WEST SIDE. DETERIORATED HOUSING, RUN-DOWN COMMERCIAL STRIPS, VACANT BUILDINGS AND DECAYING PHYSICAL CONDITIONS, AMONG OTHER PROBLEMS, ARE WIDESPREAD THROUGHOUT MY COMMUNITY. HOWEVER, THERE ARE TARGET AREAS WITHIN OUR NEIGHBORHOOD -- WHERE WE ARE CONCENTRATING OUR REHABILITATION EFFORTS -- WHICH ARE BEGINNING TO SHOW SIGNS OF IMPROVEMENT WITH THE HELP OF FEDERAL ASSISTANCE.

THE REAGAN ADMINISTRATION'S PROPOSED MASSIVE FUNDING CUTBACKS AND RADICAL DEREGULATION OF SEVERAL KEY HUD NEIGHBORHOOD REVITALIZATION PROGRAMS -- INCLUDED IN SENATE BILL, S. 1197 -- WOULD HAVE A DEVASTATING IMPACT ON CHICAGO'S LOW AND MODERATE INCOME NEIGHBORHOODS, PARTICULARLY ON NEIGHBORHOODS LIKE SOUTH AUSTIN, WHICH HAS RECENTLY MADE PROGRESS IN MEETING SOME OF ITS ENORMOUS HOUSING AND COMMUNITY DEVELOPMENT NEEDS.

IN RESPONSE TO THE REAGAN ADMINISTRATION'S PROPOSED CUTBACKS THAT WOULD HURT LOWER INCOME PEOPLE, CHICAGO'S MAYOR JANE BYRNE AND THE CHICAGO CITY COUNCIL ADOPTED ON APRIL 22, 1981 A FORMAL RESOLUTION URGING THE ILLINOIS DELEGATION OF THE U.S. CONGRESS TO OPPOSE ANY REDUCTION IN FEDERAL EXPENDITURES FOR LOWER INCOME PERSONS. COPIES OF THIS RESOLUTION WERE SENT TO THE ENTIRE ILLINOIS CONGRESSIONAL DELEGATION AND TO PRESIDENT RONALD REAGAN. AS PART OF MY TESTIMONY, I WILL NOW SUBMIT THIS ENTIRE RESOLUTION FOR THE SENATE RECORD. THE FOLLOWING ARE EXCERPTS FROM THE CITY OF CHICAGO RESOLUTION, AS IT PERTAINS TO THIS SUBCOMMITTEE:

"SINCE THE ENACTMENT OF . . . SOCIAL LEGISLATION UP TO THE PRESENT TIME, THIS NATION HAS AFFIRMED ITS COMMITMENT TO A DECENT STANDARD OF LIVING, TO BASIC HUMAN AND CIVIL RIGHTS, AND TO THE HEALTH AND WELFARE OF EVERY CITIZEN;"

"THE PROGRAMS ARISING FROM THESE LEGISLATIVE ACTS . . . ALLEVIATE THE EFFECTS OF . . . INADEQUATE HOUSING;"

"President Reagan has requested drastic budget cuts in many of those programs which would result in severe hardships for those in our society who can least afford them, cuts in critical programs such as . . . housing assistance;"

"Illinois and Chicago will lose thousands of jobs and hundreds of millions of dollars in revenues for critical services and . . . these services and jobs could not be restored through locally raised revenues;"

"That Mayor Jane Byrne and the City Council take the initiative, on behalf of the City of Chicago, to oppose any reduction in federal expenditures for lower income persons in . . . programs which enable the City of Chicago to engage in job training, park development and neighborhood revitalization."

This City of Chicago resolution carries a critical message from the many community organizations and hundreds of thousands of lower income residents in Chicago, who strongly oppose the Reagan Administration's plan to stop -- without good cause -- many worthy and productive neighborhood revitalization efforts.

The following is a brief analysis of six key HUD programs to show just how much worse off Chicago's low and moderate income neighborhoods will be if Congress approves the Reagan Administration's "anti-neighborhood" plan.

Neighborhood Self-Help Development Program:

Six Chicago neighborhood groups have received nearly $750,000 in grants from this program, which has successfully leveraged $7.5 million in private and other public investment in Chicago's low and moderate income neighborhoods. Many other Chicago neighborhood groups have applied for and need self-help grants but they will not receive these funds or any valuable technical assistance if Congress approves the Reagan Administration's proposal to terminate this program's $9 million authorization in Fiscal Year 1982 and to rescind $8.2 million in Fiscal Year 1981.

SECTION 312 LOW INTEREST REHABILITATION LOAN PROGRAM:

S. 1197 PROPOSES A 66% -- OR TWO-THIRDS -- REDUCTION IN THIS PROGRAM'S LOANS NATIONALLY FOR FISCAL YEAR 1982, IN ADDITION TO A NATIONAL RECISSION OF $111 MILLION IN FISCAL YEAR 1981. AS A RESULT, CHICAGO'S SECTION 312 FISCAL YEAR 1982 AUTHORIZATION WOULD LIKELY BE $748,000 -- A $1,452,000 OR 66% REDUCTION FROM THE FISCAL YEAR 1981 ALLOCATION OF $2,200,000.

ACCORDING TO SOURCES IN THE HUD CHICAGO AREA OFFICE, THE FISCAL YEAR 1981 RECISSION HAS WITHHELD $1,637,000 OR 75% OF CHICAGO'S 1981 ALLOCATION FOR SECTION 312 LOANS. FURTHERMORE, THERE ARE THOUSANDS OF SINGLE-FAMILY/NON-HOMESTEAD HOMES NEEDING LOW-COST REHAB IN LOW AND MODERATE INCOME NEIGHBORHOODS, WHICH WOULD BE INELIGIBLE FOR SECTION 312 LOANS IF CONGRESS APPROVES THIS AMENDMENT.

THE $1.4 MILLION CUTBACK IN SECTION 312 WOULD HAVE A NET EFFECT OF DECREASING REHABILITATION BY 140 DWELLING UNITS -- ASSUMING AN AVERAGE REHABILITATION LOAN PER UNIT OF $10,000.

COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM:

LARGE CITIES SUCH AS CHICAGO WOULD RECEIVE AN ESTIMATED 5% REDUCTION IN THEIR CDBG ENTITLEMENT UNDER S. 1197. THUS, CHICAGO'S FISCAL YEAR 1982 CDBG ENTITLEMENT WOULD BE APPROXIMATELY $122.2 MILLION -- A $6.2 MILLION OR 5% REDUCTION FROM THE FISCAL YEAR 1981 ENTITLEMENT OF $128.4 MILLION. HOWEVER, LOW AND MODERATE NEIGHBORHOODS WOULD RECEIVE FEWER CDBG FUNDS DUE TO DEREGULATION WHICH WOULD WEAKEN TARGETING REQUIREMENTS AND THEREBY INCREASE CD FUNDING OF HIGHER INCOME AREAS AND FOR-PROFIT BIG BUSINESSES -- THAT DO NOT NEED THIS FEDERAL ASSISTANCE.

THE $6.2 MILLION CUTBACK WOULD POTENTIALLY DECREASE HOUSING REHABILITATION BY 620 UNITS, ASSUMING AN AVERAGE REHABILITATION LOAN/GRANT OF $10,000.

URBAN DEVELOPMENT ACTION GRANT PROGRAM:

UDAG RECEIVED A 25% REDUCTION IN FUNDING NATIONALLY. HOWEVER, IT IS DIFFICULT TO PREDICT HOW THE 25% UDAG CUTBACK WILL AFFECT

Chicago because the UDAG program is funded through a competitive applications awards procedure - unlike the predictable automatic entitlement funding in CDBG. Nevertheless, with 25% fewer UDAG funds nationally, it is reasonable to assume that Chicago would receive about a 25% reduction in UDAG funds in Fiscal Year 1982 compared to the last completed Fiscal Year 1980. Thus, Chicago's Fiscal Year 1982 UDAG amount would be reduced to an estimated $25.5 million - an $8.5 million decrease from the Fiscal Year 1980 allocation of $34 million.

Yet, if Congress approves the proposal in S. 1197 to no longer require neighborhood UDAG projects, this funding will not be available for neighborhood revitalization projects. Thus far, Chicago's neighborhood UDAG projects have received $14.3 million which has successfully leveraged $132.6 million in private investment. If no longer available, these cost-effective neighborhood UDAG funds would be sorely missed.

Section 8 and Public Housing Subsidized Rental Housing Programs:

S. 1197 proposes a 13% funding reduction in rental subsidies for low income tenants nationally for Fiscal Year 1982. As a result, Chicago's rental subsidies allocation would be cut back to $13 million and 2,100 units -- a $2 million or 13% reduction from the Fiscal Year 1981 allocation of $15 million and 2,500 units. Due to this substantial decrease in funds for rental subsidies, waiting lists for housing assistance will grow even several years longer than currently.

Also, the rental increases in subsidized housing from 25% of their income to 30% would adversely affect about 60,000 low-income households here.

Government National Mortgage Association Section 8 Tandem Program:

This program would be phased out nationally. No new applications for this program would be accepted after February 13, 1981. Without the lower interest rate mortgage financing provided by this program, there would be a substantial decrease in the number of FHA insured new construction and substantial rehabilitation Section 8 projects in Chicago's low and moderate income neighborhoods.

SUMMARY

IN CLOSING, I URGE THE CHAIRMAN AND THE MEMBERS OF THE U.S. SENATE SUBCOMMITTEE ON HUD AND INDEPENDENT AGENCIES APPROPRIATIONS TO VISIT MY NEIGHBORHOOD OF SOUTH AUSTIN AND OTHER NEIGHBORHOODS WITH SIMILAR NEEDS AND POTENTIAL - TO WITNESS FIRST HAND THE PROGRESS AND IMPROVEMENT WHICH HUD NEIGHBORHOOD REVITALIZATION PROGRAMS HAVE ACHIEVED IN LEVERAGING PRIVATE SECTOR REINVESTMENT. AND THIS SUBCOMMITTEE'S MEMBERS SHOULD VISIT OUR NEIGHBORHOODS BEFORE VOTING ON THE S.1197 VERSION OF THE HOUSING AND COMMUNITY DEVELOPMENT AMENDMENTS OF 1981. THIS BILL'S MASSIVE BUDGET CUTS AND RADICAL DEREGULATION WOULD CAUSE LASTING HARM TO LOW AND MODERATE INCOME NEIGHBORHOODS FOR MANY YEARS TO COME.

THIS SUBCOMMITTEE SHOULD SUPPORT H.R. 3534. WHICH CALLS FOR NO FUNDING CUTBACKS AND NO DEREGULATION. THIS BILL WOULD ENSURE THAT HUD HOUSING AND COMMUNITY DEVELOPMENT PROGRAMS, IN PARTNERSHIP WITH COMMUNITY GROUPS, LOCAL AND STATE GOVERNMENT AND THE PRIVATE SECTOR - ACHIEVE RENEWAL OF DISINVESTED NEIGHBORHOODS, LIKE SOUTH AUSTIN, FOR THE BENEFIT OF CURRENT RESIDENTS.

STATEMENT OF DAVID C. CROWLEY, EXECUTIVE VICE PRESIDENT, AMERICAN ASSOCIATION OF HOMES FOR THE AGING

Ms. FISHER. Mr. Crowley? I just want to state for the record that Congressman Weaver is scheduled to testify. If you don't object, when he does arrive I would like to interrupt your statement and have him present his testimony and then we will go back to you.

Mr. CROWLEY. That is fine.

Do you want me to go ahead and start?

Ms. FISHER. Fine.

Mr. CROWLEY. I appreciate the opportunity to testify. I probably will have made my statement and be finished before the Congressman gets in here.

We have submitted for the record testimony of eight or nine pages that I trust will be included in its entirety in the proceedings. I can summarize in a few mintues what I would like to say.

STATEMENT SUMMARIZED

Our testimony deals with the demographic population arguments for our support of increased housing for the elderly. I should probably, for the record, identify myself fully. I am David Crowley. I am the executive vice president of the American Association of Homes for the Aging. In that capacity, our association represents people in nursing homes and housing for the elderly and nonprofit homes throughout the country.

Our membership and our association has been very active in the encouragement and the revitalization and in the implementation of the section 202 elderly housing program. In my testimony, I want to concentrate on that.

We would call to the attention of the committee section 202, the direct loan program for the elderly and handicapped, the section 202 program has become the primary Federal financing mechanism available to nonprofit, community-based sponsors to build housing for the elderly.

We are pleased that the administration and the Congress have maintained the funding for this program at the 1980 levels. We would, however, encourage that in the appropriations process that the Senate look to a target of not only maintaining a like amount of dollars, or instead of maintaining a like amount of dollars for fiscal year 1982, as to 1981, but to look at how many units of elderly housing those same number of dollars would buy in view of inflation. We would encourage the committee to set as a goal, rather than a certain number of dollars, to set as a goal the number of units procured in 1981 to try to reproduce at least that same number in 1982, which would require some additional appropriation, but at least that way we would not be falling behind or not so much further behind in our goal of providing elderly housing through the 202 program.

We encourage the continued development of that program in setting the goal at at least the same levels of 1981. We would like to call particularly to the attention of the committee certain language in the appropriation bill that has been a part of the appropriations language since 202 was revitalized some 5 years or so ago.

ELIGIBILITY LIMITED TO NONPROFIT SPONSORS

Eligibility for section 202 funding has been limited to nonprofit sponsors. This is according to the language of the original legislation. It was done in order to insure that funds will be available to those organizations that can best meet the needs of elderly and handicapped people. We strongly urge that this committee retain the appropriations act language continuing this restriction.

This limitation has enabled the section 202 program to become one of HUD's most successful programs to date. In its own evaluation, HUD found that elderly housing projects financed with direct loans under the section 202 program have shown a high degree of viability over the life of the program. This has been due, in large part, to project sponsorship by responsible nonprofit organizations. In its study, HUD concluded, and I am quoting:

> Most sponsoring institutions have many forms of in-kind contributions to their section 202 projects: about half have given some financial support, and a few make regular financial contributions. Nonprofit sponsors have also assured a community involvement and responsiveness in the development and operation of section 202 housing.

Furthermore, the nonprofit board of a section 202 project has a fiduciary relationship with the housing project and the residents served and may be viewed as the community agent ultimately responsible for the overall operation of the project and the well-being of the residents.

This community presence is necessary to insure accountability and that appropriate services are rendered to elderly and handicapped residents

I would like these points made for the committee's consideration because each year there is an attempt made to open up the section 202 program to limited-dividend, profit-motivated sponsors. We think that there are a number of reasons why it is not necessary, and that there are a number of reasons why a move in that direction would be counterproductive. We have a successful program. There is no reason to provide tax incentives for proprietary investors to come into the section 202 program.

The banks now are all in favor of the elderly; they are all in favor of the nonprofit community sponsor. We encourage the committee to maintain that restriction and to not allow proprietary ventures in its program.

CONGREGATE SERVICES PROGRAM

The final point we would like to make is to encourage the committee in the appropriations process to fund, again, a very small but significant program, the congregate services program, a very small amount, $10 million, first enacted in 1978. It makes funds available to public housing and to nonprofit sponsors of elderly housing projects to provide certain kinds of services to elderly in those units as a deterrent to keep them out of nursing homes.

We have figures in our testimony which show the cost of maintaining a person under the congregate services program versus the cost of needing to place them in an intermediate-care facility or skilled nursing facility. Obviously, the costs are significant, 3 or 4 times to 1. This program, unfortunately, was caught up in the rescission of 1981. It really has been only in operation for 2 years. It is a most needed program. It is only a demonstration project. It is administered by HUD. It was a while in getting started, but it is underway now. It is proving that it is successful, it is proving that it is keeping people, older people, enabling them to stay in a congregate facility or public housing when, at another time, if the services provided by these funds were not available, they would have to go into a nursing home. It is an extremely small amount of money. We know the administration is not enamored with this program and would like to cut it out completely by 1982, but we encourage the committee to look at this as a very cost-conscious economy move to maintain this small program.

Those are our three points in support for the same level of 202 housing for the elderly, keeping the restriction on nonprofit sponsorship of 202 and the reinstatement of the congregate services. That is a summary of our testimony.

Ms. FISHER. Thank you.

Mr. Crowley. I think I kept my promise. The Congressman is not back.

[The statement follows:]

[A brief recess was taken.]

STATEMENT OF DAVID C. CROWLEY, EXECUTIVE VICE PRESIDENT, AMERICAN ASSOCIATION OF HOMES FOR THE AGING

I am David C. Crowley, Executive Vice President for the American Association of Homes for the Aging (AAHA). AAHA represents nonprofit, community-sponsored housing, homes for the aging, and health-related facilities throughout the United States. Approximately 350,000 older Americans live in over 1,800 AAHA member homes, which are sponsored by religious, fraternal, labor, civic and county organizations.

On behalf of the association, thank you for this opportunity to describe the profound impact the fiscal year 1982 budget proposals, currently before the Congress, will have on housing for our older citizens.

In the past several months of budget debate, much has been said about the "safety net" of social programs for the truly needy, a group which includes great numbers of elderly. If there is any doubt concerning the life-saving capability of the safety net, one need only consider the administration's budget proposals for housing. Federal housing programs serving low-income Americans, in most cases the "truly needy," have sustained the deepest overall reductions as a result of the Economic Recovery Plan. A safe and decent home, a most basic human need, was not included in the social safety net. For the elderly, with their high incidence of poverty and housing deficiencies, this omission has serious, long term consequences.

In order to place these cuts in perspective, one should consider these facts about our aging population:

--- By the year 2000, 30.6 million people, or one in eight Americans, will be age 65 and over. This represents a 35 percent increase in the elderly population in less than 20 years.

--- The median annual income of elderly households is slightly over $10,000, or $7,500 less than the median income for the comparable non-elderly families.

--- In 1978, 68 percent of older persons living alone had incomes below $6,000 annually. Twenty-five percent of all elderly had incomes below the poverty line ($3,100 annually).

These statistics illustrate an ever-increasing aging population. Those over 85 years of age will almost double in number. It is clear that the elderly, particularly the poor elderly, are becoming increasingly vulnerable to social, health and economic burdens. The effective curtailment of our national housing programs comes at a most inopportune time, that is, a time when the demand for affordable independent congregate housing by the aging population is going to increase dramatically.

The reductions in housing programs proposed in the FY 1982 budget represent an abandonment of this nation's 40-year commitment to serving the housing needs of needy Americans, particularly the elderly. Today over 40 percent of all the residents in housing which is assisted by the Department of Housing and Urban Development are elderly. In the past 10 years alone, over 700,000 affordable units were occupied by people over 62 years of age. However, even with this assistance, we have barely begun to address the acute needs that exist today.

With respect to the specific housing problems of the elderly, it is significant that:

--- over one-third of the 15 million households identified by HUD in 1976 as needing housing assistance are elderly. Federal housing programs serve barely 5 percent of this nation's 25 million elderly persons.

--- Housing is the number one financial expenditure for the elderly, demanding, on the average, one-third of their annual budgets. The very old - age 75 and over - pay nearly one-half of their incomes for housing.

--- The homes occupied by this nation's aging population have a high rate of structural deficiencies. For example, among the 1.2 million black elderly, 162,000 live in units without complete plumbing.

In spite of this grim scenario, the administration proposes to reduce the number of Section 8 and public housing units by over 33 percent. In 1982, this will represent the loss of at least 34,000 units that would have been occupied by elderly residents. When assessing the full impact of this reduction, it is important to remember that today's new construction is tomorrow's housing that will serve residents well into the year 2000. With the expected surge in the aging population in the next 20 years, the massive cuts sustained by assisted housing appear economically to be particularly short-sighted.

From a fiscal standpoint, the budget reductions in assisted housing have an additional impact. Largely due to the lack of appropriate housing opportunities, the burden of meeting the needs of the elderly has fallen increasingly on expensive health care policies. The third-party payment procedures of the Medicaid and Medicare programs, in conjunction with the lack of suitable, affordable housing alternatives, have contributed to an inherent bias toward institutionalization of the elderly. A supportive living environment, often referred to as congregate housing, provides the low-income older person, who is no longer able to live completely independently, with an alternative to unnecessary and expensive nursing care. It is estimated that serving 10,000 older people in a congregate setting results in an annual savings of 75 million dollars from the federal health care purse, when compared to the alternative of nursing home care. HUD only recently began to promote the development of congregate facilities using its housing programs. We are extremely pleased at this sign of progress. However, the reduced level of new housing production under federal housing programs will virtually put the reins on this important development and will further exacerbate the critical shortage of congregate facilities. The result will be an increase in health care expenditures for the federal government.

While the American Association of Homes for the Aging wholeheartedly supports responsible efforts to balance the federal budget and reduce inflation, we must take issue with the specific proposals that pertain to federal housing programs, as they will have a devastating impact on the lives of millions of low-income older persons.

Persons who are ill housed in declining neighborhoods and who cannot afford market rate rentals or repairs to their homes need assistance in order to remain independent. At least 34,000 such individuals will be denied appropriate affordable housing as a direct result of the FY 1982 budget proposals. Given this reality, we ask this Committee to consider the full impact, both social and economic, of the administration's funding proposals.

Before closing I would like to address briefly several specific housing programs of interest to association members.

The Section 202 Direct Loan Program for the Elderly and Handicapped

The Section 202 program has become the primary federal financing mechanism available to nonprofit, community-based sponsors to build housing for the elderly. We are pleased that the administration and Congress have maintained the funding for this program at the 1980 levels. Such an action balances the critical need for additional housing for the elderly with the need for fiscal responsibility in government spending.

Eligibility for Section 202 funding has been limited to nonprofit sponsors, according to the language of the original legislation, in order to "ensure that funds will be available to those organizations that can best meet the needs of elderly and handicapped people." We strongly urge this Committee to retain the appropriations act language continuing this restriction.

This limitation has enabled the Section 202 program to become one of HUD's most successful programs to date. In its evaluation, HUD found that "elderly housing projects financed with direct loans under the Section 202 program have shown a high degree of viability over the life of the program." This has been due, in large part, to project sponsorship by responsible nonprofit organizations. In its study, HUD concluded that ". . . most sponsoring institutions have many forms of in-kind contributions to their Section 202 projects; about half have given some financial support, and a few make regular financial contributions. Non-profit sponsors have also assured a community involvement and responsiveness in the development and operation of Section 202 housing."

Furthermore, the nonprofit board of a Section 202 project has a fiduciary relationship with the housing project and the residents served and may be viewed as the community agent ultimately responsible for the overall operation of the project and the well-being of the residents. This community presence is necessary to ensure "accountability" and that appropriate services are rendered to elderly and handicapped residents. The Section 202 program's success may be attributed to a great degree to the fact that nonprofit sponsors have made a long-term commitment to providing housing and services to elderly and handicapped individuals. In order to ensure that this record is continued, and that government funds are utilized in the best way possible, we would encourage the Subcommittee to continue the limitation of eligibility to nonprofit sponsors.

Each year, the qualified nonprofit organizations competing for Section 202 loans have far outnumbered the available funds. Over 1,100 nonprofit groups invested time and money to complete the complex application for 1980 funds. The 202 program's track record and popularity would certainly justify a continuation of the policy that limits program participation to those who are willing to make a commitment of resources to provide housing and services to the needy elderly without making a profit.

Other state and federal housing programs allow nonprofits to form limited partnerships with profit-making concerns in order to develop elderly housing. Many AAHA members have used this financing approach. Given this availability of limited partnership ownership of assisted elderly housing, we see no benefit to the elderly resident or to the nonprofit sponsor in changing the current restrictions.

We seek continued Congressional commitment to ensure that there is community involvement and responsibility in the development and operation of Section 202-funded housing for the elderly and handicapped.

Congregate Housing Services Program

In 1978, Congress took a historic step in recognizing that congregate services are an essential part of housing serving the elderly and handicapped. By enacting Title IV, The Congregate Housing Services Act, Congress acted to ensure that public and Section 202-sponsored housing serving the elderly and handicapped is truly responsive to the needs of these individuals.

After two years of successful operation with modest funding, the future of this innovative, cost-effective program is in doubt.

The budget proposals derived from the Economic Recovery Plan have proposed a rescission of the $10 million appropriated for 1981 and requests no further funding. An administration spokesman, testifying before the House Aging Committee's Subcommittee on Housing and Consumer Interests, acknowledges that the administration has no plans for funding the program in 1983 or beyond. We view with alarm the apparent dismantling of the Congregate Program before its effectiveness can be judged. As I discussed earlier, providing services to frail elderly persons in their homes - be it a private residence or a congregate setting - is far more attractive than placing them in a medical institution, just so they can get the assistance that is needed. The average cost per day for a resident participating in the Congregate Housing Services Program is $9.85, of which only $6.15 are federal dollars. In comparing this to a daily cost of anywhere from approximately $10 to $33 dollars that are required to support the average nursing home resident, the value of the congregate approach comes clear. Even if the dollar figures were the only redeeming factor in the program, the difference between the two alternatives convincingly favors congregate services. I would note that the advancement of less costly facility-based programs should be in sympathy with the administration's cost-cutting Economic Recovery Plan.

The cost factor, however, is not all that is positive about congregate housing services. As it is presently structured, the program is uncomplicated. Funds for congregate services are provided from a single source - HUD - directly to housing project sponsors. The sponsor, having surveyed the residents, has established a package of services which are specifically designed to meet the needs of each eligible resident. The funds are used to provide the services in this package. It is important to realize that the program does not compete with or take away from other social services; rather, it picks up where they leave off. In so doing, it works to develop a continuum of care with a range of services available to meet the changing needs of elderly persons in housing developments. Thus, congregate funds are not competing with other funds in a block grant, nor are they becoming lost in a maze of administrative levels, nor do they originate from a myriad of sources. These funds are allocated in a direct line from the source to the provider of services on behalf of the recipient. Furthermore, the Congregate Housing Services Program is unique in its provision of multi-year, renewable funding that can be relied upon for term planning.

The danger of incorporating such a program in a block grant is that it would most likely create an administrative tangle. We have a government that is currently criticized for over-regulating and for being involved in too many aspects of daily life. Amidst the complexity of most government initiatives the congregate program is refreshing, as both the requirements for the program and the direct bureaucratic involvement in it are minimal.

We urge the Congress to provide a minimum of $10 million for FY 1982, to facilitate the evaluation of this important new program. We believe quite strongly that the Congress would be doing itself and the nation's frail elderly a gross disservice if the Congregate Housing Services Program is curtailed or terminated.

I appreciate this opportunity to share our views with the Subcommittee.

ENVIRONMENTAL PROTECTION AGENCY

STATEMENT OF HON. JIM WEAVER, U.S. REPRESENTATIVE IN CONGRESS FROM OREGON

OBLIGATIONS MET BY OREGON

Ms. FISHER. The subcommittee will come to order.

Congressman, thank you very much for testifying before the subcommittee.

Mr. WEAVER. I want to express the strong feelings of the cities of Oregon which are affected by reduced Federal funding for sewers. We have made great strides in meeting the standards of the Federal Clean Water Act. Oregon is one of the few States of the Nation that has been on schedule in meeting the Federal requirements.

It has obligated the funds to do it. The unfortunate aspect of that decision is that no allowance was made when the revisions were made to reward States like Oregon that have met their obligations under this program.

I want to express our thanks to the chairman, Senator Garn, and this committee for proposing an alternative to the revision that is more favorable to Oregon, however, even that effort would provide less than an additional $4 million.

The administration's reformed proposals will essentially make Federal dollars unavailable for sewer construction in Oregon.

Our department of environmental quality has compared those proposals against the EPA 1980 need study and believes that only 17 percent of the projects listed in that study would be funded in Oregon under the administration's reformed proposals.

CITY OF BEND'S DILEMMA

However, we see no accompanying reductions in the mandates under this program. The city of Bend, for example, which lies on a lava flow and has had to blast every foot of its system through rock, has spent $51 million of its own money building its system.

Because of EPA delays in certifying a method of permanent effluent disposal, the city is using temporary lagoons, with a capacity of some 150 days' discharge. An estimated $3.5 million is needed to complete the project. It is doubtful whether the disposal element would meet the proposed new eligibility criteria.

So I believe that it is necessary for us to consider a hold-harmless provision to meet our obligation to those cities that have proceeded in good faith past the point of no return in the design, funding, or actual construction of a sewer system. I would like to repeat that the city of Bend, which lies in a lava flow and has had to blast every foot of its system through rock, has spent $51 million building its system. Because of EPA delays in certifying a method of permanent effluent disposal, the city is presently using temporary lagoons with a capacity of some 150 days' discharge. An estimated $3½ million is needed to complete the project, but it is doubtful whether the disposal element would meet the proposed new eligibility criteria.

PREPARED STATEMENT

I ask that the balance of my statement be placed in the record.

Ms. FISHER. Congressman, your entire statement will be placed in the record.

Thank you very much, and I apologize for Senator Garn not being here, but I think you understand the conflicts he has had today.

Mr. WEAVER. No problem. Thanks a million.

Ms. FISHER. Thank you.

[The statement follows:]

STATEMENT OF REPRESENTATIVE JAMES WEAVER FROM OREGON

There are essentially two classes of Oregon Cities affected by reduced federal funding for sewers. First, there are those cities that are past the point of no return and have plants under construction or have voter approval for bonds. In both cases, the city's commitment has been based on the existing eligibility criteria and the formula for the federal match. This is a relatively small group of cities in Oregon. Second, there are those cities that are in the earlier stages of identifying needs and planning for plant construction.

Recent reductions in federal funding for the sewer programs have hurt Oregon's model program of complying with the federal Clean Water Act. Oregon is one of the few states in the nation that has been on schedule in meeting the federal requirements and obligating all of the funds available to it. The large unobligated balances from other states have resulted, reasonably enough, in Congress reducing funding for the overall sewer construction program. The unfortunate aspect of that decision is that no allowance was made to reward states like Oregon that have met their obligations under this program. Under the authorized funding level for the Clean Water Act, Oregon should receive in excess of $60 million per year. The combined effects of reduced appropriations for 1981 and the proposed 1981 recision will provide only an estimated $29 million. This is compared to a state priority list that currently includes over $300 million in projects.

We have explored two approaches to a "two-tier" bill in the last Congress that would recognize the plight of the states that have been performing under this program by removing the penalty they have been paying for their slower peers. First, we explored the concept of borrowing other states' funds from the unobligated pool, but found quickly that those states would resist any effort that threatened their potential future access to those funds. In addition, we were not eager to mortgage Oregon's future just because the initial cut was not targeted enough to effect only those states that had caused the problem. Next, we explored with Senator Hatfield the concept of a supplemental appropriation to go only to those states that are on schedule under the program. As most of you are aware, that proposal ran headlong into last year's budget balancing efforts.

The reductions this year hit Oregon even harder. The 1981 recision reduces the funds we were counting on to continue the program. I want to express Oregon's appreciation to Senator Garn and this committee for proposing an alternative to the recision that is more favorable to Oregon. However, even that effort would provide less than an additional $4 million. The administration's "reform" proposals will essentially make federal dollars unavailable for sewer construction in Oregon. Our Department of Environmental Quality has compared those proposals against the EPA 1980 Needs Study and believes that only 17 percent of the projects listed in that study would be funded in Oregon under the administration's reform proposals. However, we see no accompanying reduction in the mandates under this program.

The State of Oregon is in no position to assist in the shortfall. Having a narrow, natural-resource based economy, the state is suffering under the present economic conditions and presently projects a shortfall of revenues for the next biennium in excess of $300 million. The result is extensive budget cutting, elimination of existing programs, and consideration of a series of tax increases just to maintain a reduced level of state services. It is ironic that as we seek to improve our national economy, which must be based upon healthy local economies, that we essentially eliminate funding for sewers—an indispensible building block to economic growth in any community.

However, my purpose in being here today is not to discuss the broad range of proposals for amending the system that has been proposed by the administration and others. My purpose is to plead the case of those systems that are past the point of no return and to urge your support for funding our commitment to those cities that have proceeded to this stage in a good faith relationship with the federal government. There are about six systems in the state that are either presently under construction or have obtained voter approval for the local bond share of construction costs, based upon the present federal match. The consequences of failing to meet our commitment to these systems are rather staggering to those communities. In the Eugene-Springfield area, which is building a metropolitan plant, the reduced funding in the past two years has already increased estimated costs for that plant by 33 percent and will require an additional $8 million from local taxpayers--on top of the almost $30 million voters originally authorized for this project. In addition, since the voters were told that the local bond was to match 75 percent EPA grants, bond counsel has advised the two cities that they may have legal problems using those funds if the federal match is reduced.

In Cottage Grove, also in my district, voters recently approved a bond issue of roughly $2.5 million as the city's share of a treatment facility. The city is presently on connection limitations and has 20 single family equivalencies to dole out through October 31, 1981, when a total moratorium must be imposed. The city advises me that failure to receive the promised federal match would result in an increase of monthly water and sewer bills from approximately $15 to $38 per month.

The City of Bend, which lies on a lava flow and has had to blast every foot of its system through rock, has spent $51 million building its system. Because of EPA delays in certifying a method of permanent effluent disposal, the city is presently using temporary lagoons with a capacity of some 450 day's discharge. An estimated $3.5 million is needed to complete the project, but it is doubtful whether the disposal element would meet the proposed new eligibility criteria.

I believe that it is necessary for us to consider a "hold-harmless" provision to meet our obligation to those cities that have proceeded in good faith past the point of no return in the design, funding or actual construction of a sewage system. It is our responsibility to review the overall success of this program and to consider redefining both federal and local roles. Cities that are in the earlier stages of planning for construction facilities can adapt to those changes and, in fact, would welcome a clear statement of the federal government's future commitment to this program--in contrast to the uncertainty that has been created in recent years. However, it is not fair to abandoned those jurisdictions and taxpayers that have met our every requirement under this program and now, through no fault of their own, find themselves in this dilemma. The hold-harmless proposal will be presented to the authorizing committee in both houses and we hope to be able to come back to you with a proposal which allows that provision to work within the funding level suggested by the administration. Again, we appreciate this committee's efforts in offering an '81 recision proposal that is favorable to those states that are on track in this program and hope that you will be equally supportive of efforts to have the federal government meet its contractual obligations to those jurisdictions that have met their commitment to us.

HOUSING AND URBAN DEVELOPMENT

STATEMENTS OF:

ROBERT FRANK, CHAIRMAN, WASHOE TRIBE (NEVADA)
ALVIN JAMES, EXECUTIVE DIRECTOR, PYRAMID LAKE HOUSING AUTHORITY (NEVADA)
RAYMOND GOETTING, PUEBLO OF LAGUNA TRIBE

Ms. FISHER. I would like to now call our next witnesses to the table: Raymond Goetting, Robert Frank, and Alvin James.

Mr. GOETTING. We also have with us the Washington attorney of Pueblo Laguna, Mr. Bill Stevens.

Mr. Chairman, committee members, my name is Ray Goetting. I am from the Pueblo of Laguna. Gov. Harry Early regrets his not being able to personally appear today.

ELIMINATION OF INDIAN HOUSING

In a recent meeting, several tribes discussed the administration's elimination of Indian housing. After that meeting, three tribes have, on our own, developed a response to the administration's action. This response focuses on three principal areas: (1) Answering the criticism of the Indian housing activities; (2) establishing the basis of our continuing need; and (3) recommendations for resolving the problem.

Today, the three tribes are appearing before you to request continuation of the funding under what we believe to be the minimum requirements under the circumstances.

In addition to myself, our group includes Mr. Robert Frank, chairman of the Washoe Tribe of Nevada, and Mr. Alvin James, chairman of the Nevada Indian Housing Authorities Association.

To give you a broad picture, we will each emphasize a portion of the total plan we are recommending. My part is to assure you that it is possible to correct many of the deficiencies by redirecting tribal organizational efforts. The tribal councils usually receive the major problems when housing authorities are unable to resolve them.

MONITORING FUNCTION SUGGESTED FOR TRIBAL COUNCILS

One alternate is to place the housing activity under the tribal council for specific monitoring of its actions to maintain current control.

Funding can most easily be channeled to Indian tribes through the current HUD community development block grant procedures.

Very little change is necessary to authorize full housing needs to be answered through this mechanism. Both HUD and tribes are accustomed to this method which has been used for other than direct housing programs.

Currently, housing construction and financing are already eligible under the CDBG program under certain circumstances; that is, as part of an economic development project or as last resort housing under the Uniform Relocation Act. In these isolated cases where CDBG funds have been used to build houses, construction, administration, and design costs have been substantially lower than under the existing Indian housing programs.

There are far too few examples of CDBG-built housing from which to generalize, but it appears that the flexibility and relative simplicity of the CDBG program may contribute to dramatic cost reduction when compared with the existing program.

We believe continued funding through this method would be infinitely more appropriate and potentially more economical and effective than through block grants through States or even the BIA, which lacks experience in this process.

While there are, no doubt, other alternatives which could be advanced to resolve these same problems and concerns, we here want to request continuation of providing for the housing needs of Indian people.

The current Indian programs have been directed toward the low-income group. There has been no programs available to those above the poverty level. FHA operates in municipalities for loan guarantees. Indians in those areas may qualify, but this is not true on the reservations. If Indian tribal communities are ever to become self-sufficient with equal employment opportunity and career stability, a more normal realty-type operation is essential to allow buy-sell among members and a tribal cultural modern influence adjustment.

Without any help along this line, our own tribal efforts will be thwarted. A stop-go, stop-go approach for the Indian programs and required funding will delay any systematic approach to solving self-sufficiency.

FUNDING REQUEST

Our funding request is that the 1981 funding be allowed to stand as is; that 1982 and 1983 provide $100 million for 1,333 new housing units each year. When the current pipeline units have been completed, we would expect that by 1984 and after, under the new approach, tribes would have developed a more comprehensive analysis of Indian housing needs.

The approach the three of us are taking, if put together, will provide a basis to attack the Indian housing problems. The entire Federal approach to aid its citizens in providing the necessities of life of food, clothing, and shelter should include the American Indian. We, therefore, appeal to your committee not to forget a segment of the people from whom this land was acquired through conquest, treaty purchase, and sometimes illegal means. We are proud to be Americans; we hope to make America proud of us. But we need your help and guidance.

Thank you.

I would like now to ask the chairman of the Washoe Tribe to present his report. Thank you.

REPORT OF ROBERT FRANK

Mr. FRANK. My name is Robert Frank. I am the chairman of the Washoe Tribe in Nevada and California. We would like to submit our testimony for the record. Verbally we will tell you what our problems are.

Ms. FISHER. Your entire statement will be included in the record.

Mr. FRANK. The problems of Indian housing, as Mr. Goetting alluded to, have been mentioned many times, and there have been many efforts to eliminate the Indian housing program. In fact, the OMB recommended the elimination of Indian housing based on many of the problems that are very prevalent. However, we feel that the elimination of Indian housing, the proposed elimination is grossly unfair. We feel the facts that OMB used are overstated; for example, the number of units in the pipeline. I have heard figures from 22,000 down to as much as 12,000, so the pipeline figures are unclear.

Also, the critical need for Indian housing in the Indian country, as Mr. Goetting also has stated, is very critical. Many of the tribes' needs are not met. In many cases, 60 percent of the people that live on reservations don't have water in their houses. They do not have electricity in their houses. The need has to continue. We would recommend that the committee continue the Indian housing program, fully funded, so that we can continue and meet the Indian housing program's need.

As Mr. Goetting recommended, what we are recommending is that as a solution to correct many of the deficiencies that Indian housing authorities now are facing is that, perhaps, a community block grant program approach, which is funded through HUD, is a real viable approach to address many of the problems. I think we have to understand that the block grant approach has been discussed before and has been criticized. But the Indian block grant program is specifically for Indian tribes. The set-aside comes out of the Secretary's discretionary fund.

We recommend that the committee strongly look at making housing an eligible activity under this program.

Under this approach, we would then have the tribes receiving the block grant directly. The tribe would then be accountable for the funds that we receive for Indian housing. We strongly urge the committee to read the documents that we have submitted that support our position.

Thank you.

[The statement follows:]

STATEMENT OF ROBERT L. FRANK, CHAIRMAN, WASHOE TRIBAL COUNCIL

I am Bob Frank, Chairman of the Washoe Tribe of Nevada and California. I am here today for two purposes:

-- to request your favorable consideration of continuing to provide full funding for housing assistance to Indian Tribes; and

-- to suggest a way to fund Indian Housing that will be a substantial improvement over the existing housing program from your point of view as well as ours.

As you know the administration has proposed to eliminate, at least in 1982, the Indian housing programs. OMB has cited several reasons to eliminate the programs:

1. It is too expensive to build and finance. OMB estimates that it costs $175,000.
2. The existing Indian Housing pipeline, estimated at 22,000 units, is so large that it will HUD five years to deplete it.
3. Some Indian housing authorities have a dismal record in collecting rents.
4. Some Indian housing authorities have grossly mismanaged the programs.

Tribes and Indian organizations have criticized the existing housing programs for other reasons as well as the ones I just listed.

1. The programs are so complex that Indian Housing Authorities' staff spend all their time complying with HUD, IHS, and BIA regu-

lations instead of building and managing housing projects.

2. The Interagency Agreement under which HUD builds the actual houses is difficult to coordinate. IHS provides some, but not all, of the water and sanitation facilities; and BIA builds some, but not all, of the roads. The Interagency Agreement requires IHS's to deal with three different agencies, operating under three different sets of regulations, according to three different budget processes that provide funds at three different times during the development cycle of a single housing project.
3. Finally, I believe, most importantly, the current Indian Housing programs do not recognize the validity of Indian Cultural traditions and impose middle-class American values on Indian families who often find these values irrelevant and occasionally repugnant.

This is an imposing list of deficiencies, however, not all of them are entirely accurate, at least those not presented by OMB as its justification for eliminating the Indian housing programs.

OMB says that it costs $175,000 to build and finance a unit of Indian housing. Recent data suggest that the current average per unit construction cost for Indian housing is $65,000. The per unit financing cost is $68,000 for a total cost of $134,000 not $175,000 per unit as claimed. Compared to the city low-income public housing programs, Indian housing is more expensive. Total construction and financing costs for non-Indian public housing is only $101,000 per unit. However, the same costs for typically much smaller units of Section 8 new construction are an astonishing $170,000 per unit, where GNMA Tandem subsidies are included. It is not altogether clear why OMB has singled out Indian housing as being too expensive at $134,000 when similar Section 8 units cost $170,000 per unit. I fail to see either the accuracy or the equity in OMB's arguments.

Further, using average units costs is both misleading and unfair in judging Indian housing. The $65,000 average construction costs includes certain very high cost Indian projects -- specifically projects at Navajo and in Alaska. Removing these two areas from the calculation of average costs reduces the average construction cost for Indian housing by about $30,000 per unit, bringing most Indian housing units in at a lower cost than other low-rent units.

Regarding the excessive size of the Indian housing pipeline, OMB's concerns also seem exaggerated and in any case, the backlogged Indian pipeline is much smaller than the "city" pipeline. Of the 18,000 Units of Indian housing Units reserved since 1976, about 6,000 or less than one-third still had not reached construction start by May 1981. Of the 138,000 units of the "city" low-rent units reserved since 1976, about 71,000 or more than one-half, had not been started by May of this year. Again, I am not sure I understand why the delays in producing Indian housing justify eliminating this program when much more serious delays in the city program does not justify eliminating it.

Mr. Chairman, it appears that OMB may have been somewhat over zealous in seeking to cut costs and may not have had enough time to analyze fully comparative data when the elimination of the Indian housing program was proposed. Nonetheless, there are serious problems with the existing Indian housing programs that from a Tribe's point of view should be addressed, this might be an appropriate time to re-examine entirely the way in which Indian housing is built and paid for. I believe that if Congress is able to resolve the problems I have described, you will also be able, in good conscience, to continue to provide housing assistance to Indian Tribes in the future.

For Tribes really do need a housing assistance program. More than 60% of existing units on reservations lack plumbing, about the same percentage are either structurally deteriorated or severely over-crowded. These statistics only describe the existing situation. In many ways, however, housing represents the future of Indian Tribes and Indian people in this country. Without housing we cannot become the viable, independent and self-reliant communities that Congress and Tribes envisioned when the Self-Determination Act was passed. Without housing we will be unable to attract or keep within our communities the growing number of college- educated young people who are the next generation of Indian leadership. Finally, although our need for housing is intense, it is relatively small. Even the highest estimate of need that I have heard, about 100,000 to 125,000 units is but one year's of housing allocations for cities. Following is a brief list of the problems that I have experienced with the existing Indian housing programs. I believe that each of my problems and all or most of your problems with the existing programs can be resolved by the very simple approach I will recommend later on.

1. Over-regulation - First the existing Indian housing programs is the most relentlessly over-regulated of all federal programs. I have administered many federal programs and I have yet to encounter another that is governed by such rigid and complex regulations. For example, under the existing programs, every decision is made at least twice -- once by the Indian Housing Authority, once by HUD or BIA. Often, of course, the same decision is made three or four times. The difficulty and frustration of this intense federal oversight and second guessing aside, the delays associated with this complex process add considerably to the cost of Indian housing.

2. Minimum Property Standards

   I am sure that the MPS was devised as a well intentioned way of protecting the federal government's investment in housing. It has now gone way beyond this interest and must be costing the government millions of dollars a year in excess costs. Residential construction is generally considered to be the simplest kind of building. We have had an easier time overseeing the construction of major public buildings than in putting up thirty houses under MPS requirements.

   The MPS has also provided to be an instrument for destroying Tribe's cultural values and traditions. The MPS imposes on

Tribes and other native governments, such as Guam and the Trust Territories, the cultural, structural and financial values of middle-class America. For example, the Washoes, like many Tribes, have a communal tradition. Traditionally, our homes had a large common family living area and often had no separate sleeping areas at all. The MPS, however, dictates that we have a certain number of separate bedrooms, depending on the age and sex of our children. The value implicit in this MPS requirement is of course the right to privacy -- a very deep-seated concern in the non-Indian cultures. Indian people respect and honor this concern in our dealings with non-Indians. The MPS and prototype cost constraints, however, do not allow the federal government to honor and respect our Indian concern for communal living. I do not see why the government cares where in our houses we sleep so long as the houses are structurally sound and reasonably comfortable. I believe that within a reasonable cost ceiling the choice of amenities, in this example, a large living room at the expense of multiple bedrooms, should be ours to make, not the government's.

3. Tribal Responsibility

Under the current Indian Housing Programs there are not positive incentives and many actual liabilities for Tribal Council to

> assure their rightful responsibilities in the administration of the housing programs.
>
> The establishment of housing authorities with independent boards of commissioners is a municipal government device from the 1940's. If housing authorities ever were appropriate entities for Indian Tribes, they certainly are not now in this context of self-determination. HUD, however, absolutely requires Tribes to form housing authorities if they want to receive HUD housing assistance.

The Washoe Tribal Council wanted at one time to abolish the housing authority and make the administration of the HUD housing programs a direct Tribal council responsibility like the CDBG, EDA and other federal construction programs. HUD rejected our request on the grounds of tribal sovereignty. I suspect that their real concern was that if contractors could not sue, they would not bid on housing projects.

HUD also administers the Indian Community Development Block Grant Program. Under this program, HUD provides funds directly to Tribes and holds Tribal Councils directly accountable for performance.

We have never had trouble getting contractors to bid on Block Grant projects, nor have we had to invoke tribal sovereignty in dealing with contractors under the Block Grant or any other federal program.

I do not understand why one part of HUD insists on funding through a housing authority and another part of the same agency requires Tribal Councils to assure full responsibility for managing grants. Of the two approaches, I prefer the latter. It gives me and my Council the authority and responsibility to manage our programs. It also gives us the benefits as well as the liabilities of providing services to Tribal members. There are also very clear incentives for us to manage the direct programs effectively. If we don't, we don't get other needed projects and must explain why to irate tribal members.

I believe that applying this approach to the provision of housing assistance would help solve many of the problems with the Indian housing programs. If Tribal Councils are able to provide the benfit of housing assistance, they will more readily accept the responsibilities of containing costs and collecting rent and enforcing maintenance requirements.

Mr. Chairman, I believe that there is a very simple way to address both of our concerns about the existing Indian housing program.

I respectfully suggest that housing construction and financial assistance be considered an eligible activity for Community Development Block Grant provided from the Secretary's Discretionary Fund and that $200 million be added to the Secretary's fund earmarked for housing assistance, including on-site and off-site infrastructure.

Mr. Chairman, I believe that there are many advantages to my suggestion.

In addition to benefitting Indian Tribes and Alaska Native Villages, this approach could also benefit the people of Guam, American Samoa, and the Trust Territories, etc. These people have similar problems to ours. Their land is inalienable, and their climate and cultural traditions are not recognized under existing housing programs.

The Block Grant Program is a relatively simple one to administer compared with existing housing programs. The MPS does not apply to construction under the Block Grant Program. Therefore, with one minor change, tribal concern over the complexity and insensitivity of the existing Indian housing programs is eliminated.

My concern with the lack of tribal council authority and responsibility over the provision of housing assistance is eliminated. Tribes would also have the ability to keep their housing authorities or to create a different mechanism if they wished. Tribes, however, would be legally and administratively responsible to the government in providing the housing they said they would.

With few, if any, regulatory changes, Tribes would be able to provide a broad range of housing assistance to tribal members. These could include market rate loans to higher income families, who often can not get conventional mortgage financing because of the trust status of Indian land. These families' housing payments could be placed in interest bearing revolving funds and be used to offset some of the housing demand on reservations. This could reduce the cost to the government in the long-term and move Tribes toward independence from the government's housing assistance. On the other end of the scale, Tribes could provide housing grants to destitute tribal members. In short, providing housing assistance through the CDBG program would vastly increase Tribes' abilities to design housing programs that meet their individual cultural, climatic and legal needs.

The need for an interagency agreement would be erased.

As I envision the program, Mr. Chairman, construction costs could be substantially reduced, at the same time that the choice and trade-offs of amenities for Tribes would be increased. Two operating regulations would have to be adopted to accomplish this:

-- Tribes would have to adopt minimal construction quality and amenity standards. For example, all units would have to be structurally sound and at least have adequate sanitation facilities.

-- HUD would establish an absolute average per unit construction cost that could not be exceeded. Within this ceiling, Tribes and Indian families could choose what amenities they wanted. For example, if a family wanted a large common area instead of four bedrooms, they could have it.

With these kinds of operating policies, I believe costs would be reduced First, Tribes and families would have an incentive to build cost effective houses. Second, in the one case that I know of in which CDBG funds were used to build new houses, the Tribe in question built two four bedroom homes that met codes for under $75,000 inluding design costs. If this experience can be duplicated on a large number of reservations, the government could be out of the Indian Housing business in a few years.

Under my suggestion, a funding vehicle already exists that, with minor regulatory modifications, could easily be expanded to provide for the objective and equitable distribution of housing resources. The existing CDBG rating process could be expanded and housing assistance could be provided under the same contract.

I am aware that the idea of making housing an eligible Block Grant activity has been discussed and criticized. My proposal, however, is limited to a strictly defined group of communities with unique legal, cultural and geographical characteristics for whom existing housing programs have not worked very well. Limiting this suggestion to grants made under the Secretary's Fund will not confuse this larger issue.

Mr. Chairman, I hope that you find that my proposal has merit and that you and the committee will consider it.

TESTIMONY OF ALVIN JAMES

Mr. GOETTING. Mr. James, the chairman of the Nevada Indian Association on Housing Authorities.

Mr. JAMES. As a followup to my colleagues, I would like to say that it is an honor to appear before you today. My colleagues and myself come bearing the fruits of months of labor, a new Indian housing program. As an introduction, let me briefly state why we are here.

Since early times, the Indian has entered into treaties and mutual commitments with the Federal Government. It has been, and continues to be, the will of the people of this country that the United States of America, in exchange for this vast land, will honor treaties and solemn commitments to provide for the Indian's well-being, shelter, and protection of land and other natural resources on reservations. So, in short, we come before you not begging for something we do not have or for restoring budget cuts. We come to remind ourselves and Congress to live up to our obligations.

We all know that Indian reservations are not white middle-class America. We believe America gains strength from diversity. Reservation housing is a basic right just as a healthy U.S. economy is a basic right for us as citizens of this country. We want to contribute our fair share.

We propose a simple modification to existing funding authorization and appropriations. This is only to amend the housing and community block grant program, by making new construction of housing possible. These funds provide grants under the HUD discretionary fund. By this approach, we can allow the existing pipeline to run out. These 15,000 units would last perhaps 2 to 3 years.

During this time, tribes can adequately plan and adapt to the block grant program. Initially, $100 million, yielding 1,333 units, would have to begin the block grant program. Thereafter, in each of the next 3 years—1983, 1984, and 1985—$200 million, yielding 2,000 units per year, would have to be authorized and appropriated.

At the end of this 2- to 3-year period, appropriations for CDBG would have to be increased substantially in order to take up the slack of the diminished pipeline. To eliminate future pipeline backlog, we ask that the funds, once committed by HUD, be designated by housing project and made available according to completion on an applied schedule.

ADVANTAGES LISTED

Funding decisions by HUD, to protect the Federal investment, would be based on tribal qualification statements. In this statement a tribe will address need, family characteristics, numbers of units for 3 years, financing mechanisms, administrative plan, and experience. This HUD block grant program allows flexibility for the following advantages: (1) Allows for direct family ownership whereby a family could buy or sell its equity. This builds an incentive to pay rent; (2) eliminates cumbersome agreements by allowing BIA or IHS funds to be pooled with HUD block grant funds; (3) simplifies HUD intervention only at critical points to protect the interests of the Federal Government, thereby giving maximum self-determination to tribes; (4) makes possible the interchanging of mutual help and low-rent contracts, thereby adjusting to changing family characteristics; (5) increases tribal legal and administrative responsibility and accountability by allowing tribes to designate their administrative responsibilities; (6) permits tribes to be funded according to their unmet need and administrative capability; (7) would recognize special tribal cultural needs, giving sensitivity to energy efficiency and need; (8) it would allow tribest to develop their own construction standards, acceptable to HUD's minimum standards, thereby eliminating expensive architectural and engineering costs; (9) it would result in rigid adherence to plans and specifications as drawn; (10) enable force account work under a wage system developed and acceptable to the tribe; and (11) it would permit the initiation of innovative financing of construction and management activities.

Thank you for your time and attention.

[The statement follows:]

STATEMENT OF ALVIN R. JAMES, CHAIRMAN, NEVADA INDIAN HOUSING AUTHORITIES ASSOCIATION

Gentlemen, it is an honor to appear before you today. My colleagues and myself come bearing the fruit of our months of labor -- a new Indian housing program.

As introduction, let me briefly state why we are here. Since early times the Indian has entered into treaties and mutual commitments with the Federal Government. It has been, and continues to be, the will of the people of this country that: the U.S. of America, in exchange for this vast land, will honor treaties and solemn commitment to provide for the Indian's well being, shelter and protection of land and other natural resources on reservations. So, in short, we come before you not "begging" for something we do not have or for "restoring budget cuts." We come to remind ourselves and Congress to live up to our obligations.

We all know that Indian reservations are not white middle-class America. We believe America gains strength from diversity. Reservation housing is a basic right just as a healthy U.S. economy is a basic right for us as citizens of this country. We want to contribute our fair share.

We propose a simple modification to existing funding authorization and appropriations. This is only to amend the Housing and Community Block Grant Program, by making new construction of housing possible. As you know, these funds provide grants under the HUD Secretary's Discretionary Fund.

By this approach, we can allow the existing pipeline to run out. These 15,000 units would last perhaps 2-3 years.

During this time, tribes can adequately plan and adapt to the block grant program. Initially, $100 million (yielding 1,333 units) would have to begin the block grant program. Thereafter, in each of the next three years (1983, 1984 and 1985) $200 million (yielding 2,000 units/yr) would have to be authorized and appropriated. At the end of this 2-3 year period, appropriations for CDBG would have to be increased substantially in order to take up the slack of the diminished pipeline. To eliminate future pipeline backlog, we ask that the funds, once committed by HUD, be designated by Housing Project and made available until completion according to an approved schedule.

Funding decisions by HUD, to protect the Federal investment, would be based on tribal qualification statements. In this statement, a tribe will address need, family characteristics, numbers of units for three years, financing mechanisms, administrative plan, and experience.

HUD block grant program flexibility:

(1) allows for direct family ownership, whereby a family could buy or sell its equity. This builds in an incentive to pay rent.

(2) eliminates cumbersome interagency agreements by allowing BIA or IHS funds to be pooled with HUD block grant funds.

(3) simplifies HUD intervention only at critical points to protect the interest of the Federal government, giving maximum self-determination to tribes.

(4) makes possible the interchanging of mutual help and low rent contracts, thereby adjusting to changing family incomes.

(5) increases tribal legal and administrative responsibility and accountability by allowing tribes to designate their administrative body.

(6) permits tribes to be funded according to their unmet need and administrative capacity.

(7) would recognize special tribal cultural needs, giving sensitivity to energy efficiency and need.

(8) would allow tribes to develop their own construction standards, acceptable to HUD's minimum standards, thereby eliminating some expensive A and E costs.

(9) would result in rigid adherence to plans and specifications.

(10) enables force account work under a wage system developed and acceptable to the tribe.

(11) would permit the initiation of innovative financing of construction and management activities.

Please refer to handouts for details. Thank you for your time and attention.

HIGH COST OF INDIAN HOUSING UNITS

Ms. FISHER. Thank you, gentlemen, very much for coming.

If I may, I would like to ask you a question.

As you know, one of the criticisms of the administration, of the Indian housing program is the high costs associated with building of the Indian housing units.

I would appreciate your comments concerning the administration's views on the program.

Mr. GOETTING. I would like to ask the housing authority chairman to comment on that.

Mr. JAMES. As you know from our testimony, we are from region 9. Region 9 covers the States of Nevada, California, New Mexico, and Arizona. We have run a comparative analysis on the costs of Indian housing versus the cost of low rents, public housing, section 8 housing in the public housing sector as administered by HUD.

With all these comparisons, as you will find in our handouts, that Indian housing compares favorably to these costs.

Further, if you take the Navajo Tribe and the Alaskan Natives out of the cost considerations, the average cost of Indian housing is much more cheaper than the other subsidized housing because—the reasons these costs are excessive is because of isolation and utilities and all the other high construction rates in these areas.

Mr. STEVENS. I would like to add, that on in Mr. Frank's testimony, there are some specific figures in terms of how the Indian housing construction costs compare with some of the tandem housing in section 8.

In addition, I would be glad to prepare for the committee's files a chart which would identify some of these comparative costs and, I think, underscore our position collectively here, that the problems in the Indian housing program have really been overstated by OMB in its zeal, or whatever, to cut the cost of some of the Federal programs.

BUM RAP ON INDIAN HOUSING

I think the Indian housing program, in fact, has gotten a bum rap. I think we recognize there are inefficiencies, some high costs associated with it, but it is—I think it compares very favorably, perhaps even more favorably, with some of the other HUD-assisted programs. It is in recognition of those problems that we are proposing to simplify the Indian housing program through the special use of the Secretary's discretionary block grant fund to, essentially, provide a block grant approach to tribes that we think would eliminate a lot of the redtape, eliminate a lot of the regulations that have increased the cost of housing.

It has been a concern to us, just as Senator Garn was concerned about the impact of the HUD programs on his administration, Salt Lake City. We feel the same problems, and our approach is addressed to that.

I do want to make clear while we are recommending this block grant type of approach, I think we are realistic that it may, perhaps, be too late to phase something like this in for 1982, although we have spoken with some of the members of your subcommittee, and our proposals have been generally received favorably.

Recognizing that it is late in this year, we would hope that if our approach is not adopted for fiscal year 1982, that the current program is funded at a full level which we would hope would be at least 5,000 units a year, while we, perhaps, could work out the details of something else that could be phased in and take the place of the existing program.

The need exists on the reservations. It is very critical. I think we all collectively would like to find a way to make it more efficiently delivered and more cost-effective.

Ms. FISHER. Have you had discussions with HUD concerning your CD proposal?

Mr. STEVENS. Yes. We have had informal discussions with people in regional offices, limited discussions with people here in Washington.

Ms. FISHER. What has been the reaction?

Mr. STEVENS. It depends—it depends on, I suppose, on their base of operations.

I think the people in the block grant area may understand a little bit more the suggestions that we are making.

People, perhaps in the housing division, may have a different attitude. I think that there are people in HUD that are helping us and encouraging us and giving us some guidance in developing these proposals.

Ms. FISHER. Thank you.

We would appreciate your preparing for the committee's files a chart which would show the comparative costs between Indian housing units and other types of assisted housing units.

Mr. STEVENS. I can have it by the end of this week.

Ms. FISHER. Fine. Do you gentlemen have any other comments you would like to make?

REASON FOR HIGH COSTS

Mr. FRANK. One closing comment is, regarding the cost, why the cost gets so high, if you look at the miminum property standards, we address this in here, but I would like to point out that the A. & E. factors, requirements that they have, the minimum costs are driving costs up. We do not want to be punished because of the overregulation of the program. We are willing to help the administration and this committee work to lessen the cost so we don't lose our housing programs.

Thank you.

Ms. FISHER. Thank you. Again, I apologize for Senator Garn not being here at this time. He will, however, attempt to return before the close of these hearings.

Mr. GOETTING. I would like to add that anytime the committee itself or its staff has a problem with us that they would like us to bring something that would be acceptable to the committee, we would be glad to contribute and help you.

Ms. FISHER. Thank you.

ENVIRONMENTAL PROTECTION AGENCY

STATEMENT OF FRANK X. BROWNE, PRESIDENT, FRANK X. BROWNE ASSOCIATES, INC.

CLEAN LAKES PROGRAM

Ms. FISHER. Our next witness is Frank X. Browne, president of Frank X. Brown Associates, Inc.

Mr. BROWNE. Mr. Chairman and members of the committee, I am Dr. Frank Browne, president of F. X. Browne Associates, Inc., an environmental consulting firm.

I am here today representing my firm and nine agencies involved in the clean lakes program. My firm has performed numerous lake and watershed management programs. We are presently involved in seven clean lakes projects. We wrote major portions of the recently published Clean Lakes Guidance Manual.

I am here today to clarify several important but misunderstood aspects of the clean lakes program. I am here today to strongly recommend that you transfer anywhere from $6 to $15 million from the 201 construction grants program to the clean lakes program. I am prepared to illustrate how the clean lakes program will save at least this amount in the construction grants program.

TWO-PHASE PROGRAM

Like the Dr. Pepper soft drink, the clean lakes program is one of the most misunderstood programs. The program consists primarily of phase 1 feasibility studies and phase 2 implementation programs.

The phase 1 feasibility study identifies the sources of pollution and develops a lake and watershed management program. The phase 2 program implements the lake restoration and watershed management activities.

An important but overlooked aspect of the clean lakes program is that it is aimed at controlling nonpoint sources of pollution in the lake's watershed.

These nonpoint sources include stormwater runoff from agriculture, construction, development, roadways, and landfills. It includes pollution from septic tanks and groundwater.

In most watersheds, nonpoint sources account for most of the pollution reaching a stream or lake. In most of the watersheds I have studied, nonpoint sources account for 75 percent or more of the pollution.

We continue to pour billions of dollars into wastewater treatment plants to treat 25 percent of the problem, but we can't afford to put $15 million into a program that identifies and treats 75 percent of the problem. It is no wonder that the GAO and the Washington Post report no significant improvements in the Nation's water quality as a result of the construction grants program,.

Maybe we are spending our money in the wrong place.

FACT VERSUS FICTION

I would like to refute the major administration and EPA arguments for discontinuing the clean lakes program. I think it is time you heard the truth.

Recreational program—the administration says the clean lakes program is a recreational program and therefore not a high priority. This is a half-truth. Many of the Nation's lakes are recreational, but we must consider that in many areas the recreation value of a lake is the economic backbone of an area. Lake Wallenpaupack in the Poconos is a good example. If the recreation value dies, the region dies.

But what about the many lakes that are used for drinking water? Is drinking safe water a recreation? Is it a low priority? I think not, yet many of my clean lake projects are being done to protect a major source of potable water.

Eutrophic lakes can also produce waterborne diseases in humans. Two years ago, hundreds of swimmers became ill from contacting the algal-laden waters in Lake Wallenpaupack. Is health a low priority?

Existing EPA programs protect lakes and watersheds. The administration says that existing EPA programs can protect lakes and watersheds. This is totally false. Earlier I indicated that nonpoint sources produce about 75 percent of the pollution to lakes.

Neither the EPA or the States have any power to control nonpoint sources. Control of nonpoint sources is purely voluntary. It is not a regulatory program. It can best be done by providing up to 50 percent initial Federal assistance to farmers, local government, and local management groups. This is what the clean lakes program is doing today.

STATE TAKEOVER

States can take over lakes program. The administration says that the States will take over the clean lakes program. This is not true. The States are not ready to take over the program. Maybe in 4 or 5 years they will be, but not now. There are only about five States that have any real lakes program. We should remember that the EPA clean lakes program was just beginning to move. The regulations were published in 1980 and the guidance manual was published last December.

Many States were beginning to set up a clean lakes program but they need more assistance from the Federal Government.

PRIVATE LAKE OWNERS BENEFIT

The administration says that mainly private owners of lakeside property benefit from the clean lakes program. Again this is not true. Sure there are a few projects that may only benefit private owners, but I don't see them. All of the projects I am familiar with benefit the general public. The lakes are surrounded by parkland, or have many beaches or public access points, or are used for public water supply.

Do you think private landowners benefit from cleaning up the lake in Central Park, New York City?

The EPA regulations and guidance manual clearly indicate that public use of the lake is a top priority.

I would like to move to some important facts about the clean lakes program.

Local participants must contribute 30 to 50 percent of the project funds for a clean lakes project. A recent GAO report indicates that the most effective and efficient Federal program are those requiring at least a 25-percent match.

A recent 7 lakes study in the Chicago area indicated that $50 million in construction grants funds would be saved because of the study of point versus nonpoint pollution.

CONTINUATION OF PROGRAM URGED

In a position paper published in June 1981, the 29,000-member Water Pollution Control Federation recommended that the clean lakes program be continued. Interestingly, the WPCF is usually more involved in the construction grants program.

The Council on Environmental Quality also recommended that the clean lakes program be continued.

Data from the clean lakes program can eventually save millions of dollars in construction grants by showing that nonpoint source controls and innovative on-site treatment systems should be substituted for expensive treatment plants.

The clean lakes program, even at 50/50 funding, only gets a watershed community moving. The community will finish the job by passing erosion control and development ordinances and by implementing best management practices, BMP's.

The EPA just published an excellent guidance manual that provides nationwide standards for performing lake and watershed studies. There is a real need to standardize our water quality monitoring programs.

A recent GAQ report criticized the EPA and USGS nationwide water quality monitoring system. The clean lakes monitoring program meets all the recommendations presented in the GAO report.

In conclusion, with the 208 program being terminated in fiscal year 1981, the clean lakes program is the only significant watershed management and nonpoint source oriented program left.

Without it, we will continue to spend billions on new wastewater treatment plants which are 25 percent of the problem, and we will see little or no improvements in water quality.

I strongly recommend that you keep the clean lakes program alive, give it a chance, reevaluate it in 1982 when you rewrite Public Law 92-500. The program will save money in the construction grants program, therefore, I recommend that you transfer $6 to $15 million from the 201 construction grants program to the clean lakes program. The construction grants program won't miss it, but we will all miss the clean lakes program.

Thank you.

Ms. FISHER. Your entire statement will be included in the record.

SUBCOMMITTEE SUPPORTIVE OF PROGRAM

In the past, the subcommittee has been supportive of the clean lakes program. When officials from EPA testified on the agency's budget request for fiscal year 1982, Senator Garn asked a question for the record concerning the clean lakes program. We will be closely examining the agency's response to this question relative to the committee's markup of the fiscal year 1982 appropriations bill.

Mr. BROWNE. The one thing we found about the EPA itself, it has portrayed the clean lakes program as lake restoration. For years it was called the lake restoration program. They have characterized it as dredging and chemical treatment. If you look at Public Law 92-500, it emphasized a lot more watershed management, managing nonpoint source, and hazardous waste.

Some of the testimony given in the past by EPA has tilted it the other way so people think we are going into dreding watersheds rather than cleaning up watersheds. In most of my programs, we are working with farmers trying to clean up top soil and combat erosion.

The clean lakes program gives from $100,000 to $500,000 to a large watershed. That gets people moving and gets them doing it on their own, plus they put up 50 percent of their money, which shows it is a relatively good program.

I will be interested in seeing EPA's response.

Ms. FISHER. Thank you for your testimony.

NATIONAL SCIENCE FOUNDATION

STATEMENT OF F. THOMAS JUSTER, DIRECTOR, INSTITUTE FOR SOCIAL RESEARCH, PROFESSOR OF ECONOMICS, UNIVERSITY OF MICHIGAN

PREPARED STATEMENT

Ms. FISHER. Our next witness is Dr. F. Thomas Juster, director of Institute for Social Research, professor of economics, University of Michigan.

Dr. JUSTER. Mr. Chairman and members of the committee, my name is F. Thomas Juster. I wish to address the issue of appropriate funding levels for the social science parts of the National Science Foundation.

I will read a brief summary of my statement and the full statement would be available for the record.

Ms. FISHER. Your entire statement will be included in the record.

Dr. JUSTER. The statement, as you have received it, was actually sent—I have been out of the country for several weeks. I drafted it and it was sent before I got a final look at it. There are a series of minor flaws which will be corrected. I will send you a corrected copy.

Ms. FISHER. That is fine. Thank you.

[The statement follows:]

STATEMENT OF DR. F. THOMAS JUSTER, DIRECTOR, INSTITUTE FOR SOCIAL RESEARCH, UNIVERSITY OF MICHIGAN

Mr. Chairman and Members of the HUD and Independent Agencies Subcommittee: My name is F. Thomas Juster, I am Director of the Institute for Social Research and Professor of Economics at The University of Michigan, and I wish to address the issue of appropriate funding levels for the social science parts of the National Science Foundation.

This statement contains three principal points:

1. The funding levels for social science research in the National Science Foundation budget are inappropriately low, given the set of urgent social and economic problems facing the U.S. during the next decade: cuts of the size recommended by the Administration come close to elimination of support for basic and applied social science research within the NSF, and will significantly hamper the ability of both the Administration and the Congress to formulate policy.

2. Although reductions or slower growth in those parts of the federal budget that do not deal with immediately pressing national priorities are both reasonable and to be expected, the sharply differential treatment in the Administration's budget recommendations of the natural and social sciences is unwarranted. The only argument made by the Administration is that the social sciences are thought to be of lower priority than the natural sciences, but that assertion has not been accompanied, so far as I know, by any justification whatsoever. I do not question the priority that needs to be given to the support of basic research in the natural sciences, but the purpose of my testimony is to argue the case for an equal priority to be accorded the social sciences.

3. Drastic cuts in the level of NSF support for the social sciences will have implications that reach well beyond its immediate effects in hampering the growth of knowledge about how society functions. In particular, it will have a severe impact on most major American research universities, making it more difficult for them to attract talented young faculty and students on whose recruitment the development of the social sciences will ultimately depend, and it will seriously weaken, and in some cases destroy, the small number of social science research institutions which play an important role in the development of social science knowledge.

What Social Scientists Do

Let me begin by trying to summarize briefly what the social sciences attempt to accomplish, and the crucial role played by the National Science Foundation in the social science enterprise.

The landscape of social science concerns ranges from micro problems such as the way in which the human brain receives and processes external stimuli to macro problems such as the causes of conflicts between nations. Most social scientists worry about problems somewhere in between these two prototypes--they investigate the structure and stability of family relationships, or the dynamics of voting behavior, or the way in which schools and families participate in the process by which young children learn, or the saving and spending behavior of consumers. As a generalization with many exceptions, most social scientists are concerned with the attempts to achieve a richer understanding of how society and the economy actually work, with the ultimate objective of providing decisionmakers with two types of insights--an accurate description of economic, social and political conditions in society, and hopefully, a set of theories for generalizations which will enable the ultimate users of scientific findings to understand, and sometimes predict, societal change.

Because social scientists are concerned with real societies, and the latter are living and changing organisms, most of us are concerned with problems that have direct and immediate relevance to the sort of problems that concern the Congress. But because the social sciences are attempting to understand conditions that are constantly in the process of change from a variety of complex and subtle forces, they are often in the position of providing judgments about possible consequences that are at best probablistic, and which are often highly uncertain.

How does social science research inform public policy, and how should it inform such policy? One way to approach that question is to note social and economic problems that the Administration and the Congress will have to make some judgment about over the course of the next several years, and see where knowledge from basic and applied research in the social sciences can help to inform that judgment. The range of such problems is of course large, and I shall provide only a brief sampling of them, concentrating on the economic ones which I know best.

Social Security

Vast changes are being proposed for the social security system, but there is totally inadequate information about people's provision for retirement (savings, homes, private pension rights, social security, etc.), about their retirement plans, and about their understanding of the provisions of the social security system. There is reason to believe, for example, that people do not realize that continuing to work after age 62 will benefit them greatly, and are retiring early partly because of inadequate understanding. There is also reason to believe, but more proof is needed, that succeeding generations (birth cohorts) have different retirement plans and provisions based on their historic earning experience.

Wealth Distribution

There have been important changes in income, gift, estate, and charitable foundation laws in recent years, without any monitoring of their effect on people's behavior, plans, or understanding. Substantial fortunes have probably been accumulated and it matters what people are planning to do with them, how they are managing them, and even how they accumulated them. Estimates of aggregate wealth are less important than the behavioral implications.

Information and the Functioning of Markets

Arguments about the importance of regulation and consumer protection abound without any information on the possibilities of improving market functioning by improving information flows. Experiments have been proposed and could be conducted assembling and redistributing information about consumer experiences in local markets. Experiments could also be mounted to understand why consumers fail to use information adequately when they have it.

Regulatory Barriers

It is clear that we have things that keep our system from functioning flexibly--it seems unable to take unused resources and unemployed people and put them to work. We have a lot of theory and very little systematic evidence about these problems. There is a great interest in productivity, and in encouraging innovation or even just stimulating investment, but aside from the well-tried tax incentives, which have not worked very well in the past, we have little knowledge of the barriers to innovation. Careful investigations are necessary to get beyond the stereotyped blaming of someone else, to a systematic study of all the things hampering true entrepreneurial activity. Only then can a comprehensive program be developed to do something about the problem.

Cohesion of Families

It has become clear that the family is a crucial mechanism for caring for dependent members of society, that it is being affected by many laws and regulations that had other purposes, and that we need to be careful about encouraging effective family functioning. (Experiments with guaranteed incomes inadvertently led to very large increases in divorce, probably because of the way the rules of the experiments were set.) Decisions about living together, sharing, marrying, and splitting are more complex to study, but can be studied, just as we have in recent years studied one partial family decision: having children.

Population Issues

From a broad ecological perspective, human beings have become overly successful as a species during the last century. (In a graph showing the number of humans on earth at various times, the slope of the curve has recently shifted from nearly horizontal to nearly vertical.) The increase in our numbers cannot continue at the present rate for very long. Achieving a new, stable, and (hopefully) "liveable" balance between the human species and other components of our world is an urgent priority. One of the issues is simple stabilization. If that can be achieved at some precollapse level, then the issue becomes a quality-of-life issue--at what level (within what range of levels) can desirable life quality be achieved? These are mighty and long-term issues, and they won't be answered immediately; but some answers are needed now, and we are not doing as much as we could or should to develop such answers.

Labor Productivity

Traditional investigations of labor productivity have been largely analyses of aggregate (and in some cases industry) statistics where the concern has been the overall relationships between output and input analyzed by way of a production function. Such investigations, however valuable, tell us little about the relation between the organizational structure of the firm, the resulting structure of worker incentives, and the efficiency with which production is organized with a given mix of capital equipment and worker skills. There is increasing evidence that these intrafirm organizational structure and incentive issues are of much greater importance than they are often assumed to be by economists--the standard economic model simply assumes that production is organized with maximum efficiency, given the capital stock and the skills of the work force. The long-run rate of productivity growth in the U.S. may well be more impacted by developments here than by changes in savings incentive or capital formation.

A quite different attack on the problems of labor productivity arises from studies which explore what people actually do when they are at work. The evidence from existing studies suggests that part of the recent decline in the rate of productivity increase may result from nothing more than a measurement error in labor hours: comparisons of time actually spent at the work place in the mid-1970s with similar data for the mid-

1960s indicates that actual hours have declined, relative to conventional reports of hours worked, at the rate of approximately one percent per year. Similarly, existing studies show large differences, relating to age and sex characteristics, between actual hours worked and conventional hours worked. Understanding productivity change, and adopting policies designed to improve productivity performance, is probably not possible without a much better understanding than we have now about what actually goes on in terms of productive activity when people are nominally at work and being paid.

Savings and Capital Formation

During recent years a great deal of attention has been given to the role of savings incentives in impacting the total volume of personal and national savings and, by implication, capital formation and the rate of productivity growth. But studies of saving behavior are seriously hampered by the total absence of current reliable data on who saves, how much they save, and what factors are associated with saving. For example, it is widely believed that saving has a marked life-cycle pattern, with younger people dissaving to acquire durable goods, older people dissaving to finance post-retirement consumption, and others accounting for the bulk of personal and national saving. But the most current data appear to be totally inconsistent with this widely held perception, although the data are so flawed by errors in the measurement of saving that one hesitates to place much confidence in the results.

Many other important questions are presently unanswerable with existing data and techniques of measurement. Some hold that saving would respond greatly to an increase in real interest rates; others hold that no such response is likely. Some feel that the social security system has significantly eroded private saving incentives; others take the view that social security has had virtually no impact on saving, and if anything, might have had a positive impact; and so on. These important policy-related arguments cannot be settled except by paying substantially more attention both to the generation of accurate and relevant data and to the development of realistic theory.

Household Responses to Public Policy

One long-standing puzzle in a number of social science areas is the apparent lack of success of public policy in achieving measurable results. For example, we invest enormous amounts of resources in providing better quality public instruction to our young people, but one can find only modest if any impact of those resources on the level of skill development in children; we invest large amounts of resources in the provision of better medical care, but there appears to be a rather modest payoff in either longevity or the national state of health; we invest billions of dollars in programs designed to train people with low skill levels so that they can become self-sufficient and productive members of the society, but the evidence of payoffs to the skill composition and self-sufficiency of the population is unimpressive; we provide extensive public support for various types of institutional facilities associated with the aged population, but it is far from clear that the aged are better cared for now than they used to be; and so on.

Part of the problem with the apparent failure (or only modest success) of these and other public policies may be that much of the analysis concentrates on the market sector of the economy as the place where results are measured, rather than on the total resources of society, including both those which go through the market and those which do not.

For example, more formal programs in schools for very young children may simply be taking the place of training and skill development that would otherwise have been taking place in the home; institutional care for the aged may be taking the place of resources within the home that would otherwise have been used for care of the aged; public programs for job training may be serving a clientele that would largely have been served by the private sector anyway, leaving untouched those parts of the population which, for one reason or another, cannot compete successfully for private sector jobs; and so on.

The solution to this problem is a research design which recognizes that what matters to outcomes are total available resources, not resources available only within the market sector. While such work has begun, it represents a task which is far larger than currently available resources permit.

The role of the National Science Foundation in supporting the research needed to inform these and other public policy issues is central. During recent years, NSF has begun to play a major role, not only in the support of basic theoretical development which is an important part of its appropriate mandate, but in the development of scientific data bases without which the social sciences can never build a solid base of accumulative and tested knowledge. These data-base building projects tend to be different from the typical research grants supported by the NSF--they are substantially larger in size and cost, they often involve research institutions which are themselves important national resources, they require continuity in order to exploit their full potential, and most of them could not be supported under the levels of funding recommended by the Administration.

Even the present level of support for the basic Social and Economic Sciences Division of the NSF is only about three percent of the total NSF budget--some $34 million out of a total of roughly $1 billion. Of the total public support, counting not only NSF but also the research budgets of the various mission agencies--total social science research support going to universities (which is where the bulk of the basic and much of the applied work takes place) came to about $135 million out of a roughly $2-billion total--something like seven percent. Thus the level of basic social science research support is rather modest for the public sector as a whole, and is even more modest for NSF support. Moreover, total public support has been declining sharply in real terms at least since 1975, and NSF support has also been declining in real terms in recent years.

Differential Treatment of the Social and Natural Sciences

Thus the sharply differential treatment of the natural and the social sciences contained in the Administration's budget recommendations simply exacerbates an already severe curtailment of basic social science research activities. As I have indicated, no justification for that difference in treatment has been advanced to our knowledge.

That issue is important from at least two points of view. First, as I understand the mandate of the National Science Foundation, it is to provide support for basic and sometimes applied research in accord with the best available scientific judgment as to where the funds could most usefully be applied. The budget recommendations of the OMB depart sharply from that process by requesting sharp reductions specifically in the Social and Economic Sciences Division, regardless of the judgments of the scientific community itself about the relative gains to be made from the application of resources to the natural and social sciences. One way to characterize the OMB recommendation is that it alleges that the most useful social science projects are less useful than the least useful natural science project--a judgment that needs to be documented if it is to be accepted, especially when technological and scientific changes create as well as solve social problems.

The Committee should note in this connection that the most recent attempt to assess the merits of various procedures for allocating funds within the National Science Foundation came to the conclusion that relatively more meritorious social science projects appear to have been rejected for lack of available funding than was true of natural science projects (the Committee chaired by Herbert Simon, commissioned by the National Academy of Sciences). And the recent resolution of the National Academy of Sciences explicitly urges the Congress not to make differential cuts in the natural and social science parts of the NSF budget, despite the fact that most members of the National Academy of Sciences are themselves natural scientists. Within the scientific community it is hard to find anyone who agrees with the OMB recommendations, and that consensus should be considered by this Committee arriving at its own recommendations.

Secondly, the differential treatment of the natural and social sciences seems to fly in the face of common sense about the nature of the problem currently facing the U.S. economy and society. There is no question in anyone's mind, and the Administration appears to agree, that basic research in the natural sciences has a well-defined payoff in productivity terms. The evidence is voluminous, persuasive and not in dispute. But the productivity payoff of research in the social sciences as it has been widely documented this spring in many sources ranging from other testimony before Congress to articles in Science, The Wall Street Journal or The New York Times, is in my judgment equally persuasive. The fact of the matter is that most of the problems that this Committee and the Congress will be discussing over the next several years are not technological ones but rather are behavioral issues, and the substance of the debates in the Congress will revolve around issues that the social sciences can illuminate but the natural sciences fail to address. If the basic problems that we face as a society are social and behavioral, what is the rationale for reducing, and virtually eliminating, the activities with some prospect of shedding some light on those social and behavorial issues?

By-Product Effects

Finally, I wish to note some of the incidental effects that would follow from adoption of the Administration's recommended cuts in the social and economic science parts of the NSF. An action of that sort would send a clear and unmistakable signal to every graduate student considering which discipline to pursue: there is no future in the social sciences, and it would be better to embark on some other career. It does not take much imagination to see the consequences of that, carried out over a number of years. American social science is presently the most highly regarded body of social knowledge and expertise in the world.

The Administration's recommended policy, carried out over the next decade, would rapidly change that picture.

A second by-product, somewhat smaller in magnitude but closer to home from my point of view, would be the effect of the Administration's policy on the small number of basic social science research institutions that presently play highly important roles in the development of knowledge about society. The Institute for Social Research at Michigan is one such institution. Although it might be argued that individual academic social scientists could survive several years of minimal or nonexistent support from public sources, turning to other pursuits that do not require external support, or spending more time teaching, the same is not true of research institutions. Centers of scientific inquiry like the ISR play a crucial role in the social science enterprise. We are one of the few organizations in the U.S., indeed in the world, with the capacity to collect primary research data used for scientific purposes. We have an active interest in policy-relevant research, although a less active concern with the actual formulation of policy itself. And we are regarded by scholars throughout the world as the prototype of a multidisciplinary, problem-oriented research institution whose senior staff has made significant contributions toward helping to understand how societies, and the individuals that comprise societies, function. While I do not think the ISR would disappear if the Administration's budget recommendations for the NSF were adopted, I do think it would be a substantially less useful place to be and it would contribute markedly less than it does now to informing the public debate. The society would not be better off with those changes.

HIGHLIGHTS OF STATEMENT

Dr. JUSTER. My statement contains three principal points:

First, the funding levels recommended by the administration for social science research in the National Science Foundation budget are inappropriately low, given the set of urgent social and economic problems facing the United States during the next decade: cuts of the size recommended by the administration come close to elimination of support for basic and applied social science research within the NSF and will significantly hamper the ability of both the administration and the Congress to formulate policy.

Second, although reductions or slower growth in those parts of the Federal budget that do not deal with immediately pressing national priorities are both reasonable and to be expected, the sharply differential treatment in the administration's budget recommendations of the natural and social sciences is unwarranted.

The only argument made by the administration is that the social sciences are judged to be of lower priority than the natural sciences, but that assertion has not been accompanied, so far as I know, by any justification whatsoever. I do not question the priority that needs to be given to the support of basic research in the natural sciences, but the purpose of my testimony is to argue the case for an equal priority to be accorded the social sciences.

Third, drastic cuts in the level of NSF support for the social sciences will have implications that reach well beyond its immediate impact in hampering the growth of knowledge about how society functions.

In particular, it will have a severe impact on most major American research universities, making it more difficult for them to attract talented young faculty and students on whose recruitment the development of the social sciences will ultimately depend, and it will seriously weaken, and in some cases destroy, the small number of social science research institutions which play an important role in the development of social science knowledge.

SOCIAL SCIENCE GOALS

Let me begin by summarizing briefly what the social sciences attempt to accomplish, and the crucial role played by the National Science Foundation in the social science enterprise.

The landscape of social science concerns ranges from micro problems such as the way in which the human brain receives and processes external stimuli to macro problems such as the causes of conflicts between nations. Most social scientists worry about problems somewhere in between these two prototypes—they investigate the structure and stability of family relationships, or the dynamics of voting behavior, or the way in which schools and families participate in the process by which young children learn, or the saving and spending behavior of consumers.

As a generalization with many exceptions, most social scientists are concerned with the attempts to achieve a richer understanding of how society and the economy actually work, with the ultimate objective of providing decisionmakers with two types of insights—an accurate description of economic, social, and political conditions in society, and, hopefully, a set of theories of generalizations which will enable the ultimate users of scientific findings to understand, and sometimes predict, societal change.

The sum discussion as to some of the issues that the Congress would face over the next decade, and I indicate the kind of research needed to eliminate some of those problems in the statement, such as social security, distribution of wealth, information and the functioning of the market, regulatory barriers, family cohesion, population issues, labor productivity, savings and capital formation, and household responses to public policies.

CENTRAL ROLE OF NSF

The role of the National Science Foundation in supporting the research needed to inform these and other public policy issues is central. During recent years, NSF has begun to play a major role, not only in the support of basic theoretical development which is an important part of its appropriate mandate, but in the development of scientific data bases without which the social sciences can never build a solid base of accumulative and tested knowledge.

These data-base building projects tend to be different from the typical research grants supported by the NSF. They are substantially larger in size and cost, they often involve research institutions which are themselves important national resources, they require continuity in order to exploit their full potential; and most of them could not be supported under the levels of funding recommended by the administration.

Moreover, they cannot be supported by alternative sources of funding.

Even the present level of support for the basic Social and Economic Sciences Division of the NSF is only about 3 percent of the total NSF budget—some $34 million out of a total of roughly $1 billion. This amount has been declining in real terms during recent years.

Thus, the sharply differential treatment of the natural and the social sciences contained in the administration's budget recommendations simply exacerbates an already severe curtailment of basic social science research activities. As I have indicated, no justification for that difference in treatment has been advanced to our knowledge.

That issue is important from at least two points of view. First, as I understand the mandate of the National Science Foundation, it is to provide support for basic and sometimes applied research in accord with the best available scientific judgment as to where the funds could most usefully be applied.

The budget recommendations of the OMB depart sharply from that process by requesting sharp reductions specifically in the Social and Economic Sciences Division, regardless of the judgments of the scientific community itself about the relative gains to be made from the application of resources to the natural and social sciences.

The committee should note in this connection that the most recent attempt to assess the merits of various procedures for allocating funds within the National Science Foundation came to the conclusion that relatively more meritorious social science projects appear to have been rejected for lack of available funding than was true of natural science projects. This was a committee chaired by Herbert Simon. The recent resolution of the National Academy of Sciences explicitly urges the Congress not to make differential cuts in the natural and social science parts of the NSF budget, despite the fact that most members of the National Academy of Sciences are themselves natural scientists.

Within the scientific community it is hard to find anyone who agrees with the OMB recommendations. That consensus should be considered by this committee arriving at its own recommendations.

DIFFERENTIAL TREATMENT UNREALISTIC

Second, the differential treatment of the natural and social sciences seems to fly in the face of commonsense about the nature of the problem currently facing the U.S. economy and society.

The fact of the matter is that most of the problems that this committee and the Congress will be discussing over the next several years are not technological ones but rather behavioral issues, and the substance of the debates in the Congress will revolve around issues that the social sciences can illuminate but the natural sciences fail to address. If the basic problems we face as a society are social and behavioral, what is the rationale for reducing, and virtually eliminating, in some cases, the activities with some prospect of shedding some light on those social and behavioral issues?

Finally, I wish to note some of the incidental effects that would follow from adoption of the administration's recommended cuts in the social and economic science parts of the NSF. An action of that sort would send a clear and unmistakable signal to every graduate student considering which discipline to pursue; that is, the signal that there is no future in the social sciences, and it would be better to embark on some other career.

It does not take much imagination to see the consequences of that, carried out over a number of years. American social science is presently the most highly regarded body of social knowledge and expertise in the world.

The administration's recommended policy, carried out over the next decade, would rapidly change that picture.

Thank you very much.

Ms. Fisher. Thank you, Dr. Juster. If I can just ask you a question?

Mr. Juster. Yes.

Ms. Fisher. When the committee was considering the administration's proposals on the supplemental rescission bill, we asked NSF to prepare a list which would identify high-priority programs where the agency thought money should be restored by the committee.

Let me ask you the same question, but in terms of fiscal year 1982. What do you consider, from the university point of view, the high-priority programs where funds should be restored?

HIGH-PRIORITY PROGRAMS

Mr. Juster. From my perspective, the most important priority for restoration in 1982 would be a collection of programs which I would put under the aegis of data base building programs which have been in existence for some time which have the potential for monitoring changes in social trends over time and which have the added potential of being a basic scientific resource, not just for any organization who originates the data base, but for the scientific community generally and for scholars throughout the country.

My perception is that in social sciences, as in the physical sciences, natural sciences, that progress within the social sciences consists of a better understanding of security and measurement. In the social sciences, one of the reasons why progress has been less rapid than one would like is because most of the measurements used by social scientists are measurements attained by somebody else for somebody else's purposes. They are basically measurements from the administrative agencies, the annual housing survey, and a number of other data bases. To make progress in scientific understanding, it is essential that the data bases be designed by the scientists with their own hypotheses in mind.

That is an activity which is only supportable by the NSF. It is also an activity which, in conventional project-sized terms, is very expensive. There is no other possible alternative source in Federal support for those kinds of projects, but a program within the NSF, which is explicitly designed to support those kinds of activities.

I think we would be much better off as a society if we did much more of that over the next decade and elimination or curtailment of those kinds of activities would guarantee, after some lag, a cessation of some degree in achieving understanding.

NSF FELLOWSHIP PROGRAM

Ms. Fisher. One last question: How many NSF fellows are currently at the University of Michigan?

Mr. Heubink. Right around 50-something?

Mr. Juster. My colleague, also from the University of Michigan, a special assistant to the president, says 50, and his figures are better than mine.

Ms. **Fisher.** How many students would be affected by the proposed administration cuts in the NSF fellowship program?

Mr. **Heubink.** Probably all of them.

Ms. **Fisher.** Could you identify yourself for the record?

Mr. **Juster.** David Heubink, H-e-u-b-i-n-k, David.

Mr. **Heubink.** Ultimately, they all would be, because as I understand it, the President's recommendation is to phase out the NSF fellowship program.

Ms. **Fisher.** Thank you very much.

Mr. **Juster.** Thank you.

STATEMENT OF THOMAS L. FAGAN, CHAIRMAN, RESEARCH AND DEVELOPMENT COMMITTEE, INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

Ms. **Fisher.** Our next witness is Thomas L. Fagan, chairman, research and development committee, Institute of Electrical and Electronics Engineers.

Mr. **Fagan.** Thank you, Mr. Chairman. It is a privilege for me to have this opportunity to appear before you at this time as a representative of the Institute of Electrical and Electronics Engineers, known as IEEE. I am very pleased to be able to bring to you the views of the IEEE, the world's largest engineering society, with over 210,000 members worldwide and with more than 165,000 members in the United States. These 165,000 U.S. members of the IEEE are vitally interested in making their views known on matters of public policy and on professional activities.

U.S. ECONOMIC VITALITY

One of the most important issues facing the United States today is the continuing economic vitality of this Nation. It is important, not only for our own citizens, but also for our allies throughout the world, who are dependent upon our military strength to decrease the threat of aggression; upon our food to decrease hunger,;and upon our technology to help provide needed goods and services. We recognize the threat which inflation poses to our economic vitality and we support the administration's measures to curb inflation.

IEEE believes that technology is the key to economic vitality. Technology must be effectively utilized and advanced to provide better products and services using labor, capital, and raw materials more efficiently and productively than ever before. Since World War II the United States has been the world's technological leader.

However, technological leadership is not a static condition. It requires continual attention and dedicated effort. If we fail to continue to improve and move forward, we will be challenged and overtaken in specific areas, as evidenced by the very significant Japanese and Western European competition in automobiles, consumer electronics, and in a variety of other consumer products.

We will also be overtaken in military areas, such as space-based lasers, antisatellite systems, quiet undetectable submarines, and much strategic weaponry.

It appears to the IEEE that the United States must take measures that will strengthen private sector capabilities and utilize Government support in areas where the private sector cannot be expected to invest.

We believe this will require the formulation of a new technology policy for the United States if we are to remain technologically competitive. The outline of this policy is emerging. We suggest it include the following elements:

SUGGESTED POLICY

One, a reduction of unnecessary Government involvement and in regulatory barriers to innovation; two, measures to improve capital formation and to encourage investment in new plant and new equipment to improve productivity; three, increased incentives for the private sector to invest in research and development, complemented by focused Government support in long-term, high-risk key areas; four, education of adequate numbers of scientists and engineers—maintaining the quality of our educational system and the people it produces; and five, trade policies that open markets to U.S. goods and services on an equitable basis and measures to remove unnecessary constraints imposed by present U.S. tax and antitrust policies.

The precise nature of the measures that are needed in these areas remain to be defined and articulated. It is important that we work now for a new understanding of the issues and a new consensus of the future shape of U.S. technology policy.

In my testimony today, while I will be focusing primarily on the fiscal year 1982 budget proposed for the National Science Foundation and NASA, two agencies that are very important parts of the Federal structure that support U.S. technology policy, I wish to emphasize the larger context in which our recommendations should be viewed.

The National Science Foundation is unique among Federal agencies in several respects—it is the only agency with a part-time Board of Directors that sets agency policy, and the only agency whose mission is to promote the health of science. Over the past 31 years, its budget has grown from a very modest initial appropriation to the current proposal of slightly over $1 billion for 1982.

During that period it has carried out its mission with great care and distinction. I should point out, however, that its initial emphasis was on science, and even today its principal thrust is on science—with engineering as a secondary role.

Only within the last several years has the NSF been assigned a broader role in applied research and been allowed to contract to profit-making organizations.

In the past year—and this is most encouraging—NSF has responded to a growing awareness of the need for increased attention to engineering and to the problems of technological innovation with an internal reorganization that created a new engineering research directorate and dispersed the applied science activities throughout the agency program offices. We applaud this move to increase the NSF focus on engineering and will be observing its progress toward this objective with great interest and in the spirit of cooperation.

NATIONAL TECHNOLOGY FOUNDATION

It should be pointed out that less than two years ago the IEEE presented testimony to the Congress identifying these needs NSF is now attempting to meet and also suggesting that it would be desirable to establish a national technology foundation to carry out this mission.

With the significant reduction in support for this year and similar cutbacks proposed in innovation programs in NSF, the issue regarding the desirability of a national technology foundation remains unresolved. It certainly seems clear that we, in the engineering community, need to do a much better job in redefining and defending such innovation-related initiatives regarding the nature of the Federal role in this area. Whether NSF will be able to provide needed Federal agency leadership in this task remains to be seen.

Certainly, the Director of the Office of Science and Technology Policy in the Executive Office of the President could take a leadership role in this regard and call upon NSF resources for support. The IEEE vigorously encouraged early action with respect to the appointnent of a Presidential Science Adviser.

Mr. Chairman, there are three specific NSF programs I would like to comment on. The first area of great interest to the IEEE is the Division of Electrical, Computer, and Systems Engineering under the engineering directorate, with a proposed fiscal year 1982 budget of $28,440,000, an increase of 25.6 percent over the revised fiscal year 1981 budget.

The division programs in automation, bioengineering and sensing systems; electrical and optical communication; systems theory and operations research; quantum electronics, waves and beams; solid state and microstructures engineering; and computer engineering are intended to support investigations to gain new knowledge in engineering principles that are applicable to the creation of new electrical and electronic devices and the structuring and control of large-scale electronic systems. These basic research programs have relevance to applied research in various mission agencies and within the industrial sector, in such areas as communications, energy, transportation, automation, and national defense. IEEE strongly endorses the support of these programs.

COMPUTER RESEARCH

A second activity of NSF of interest to IEEE is computer research, under the Mathematical and Physical Science Directorate, with a proposed fiscal year 1982 budget of $27 million, an increase of 25.1 percent over the revised fiscal year 1981 budget. The program supports basic research in computer science, software engineering, intelligent systems, computer systems design, and coordinated experimental research.

Regular scientific research support is estimated at $17.5 million, leaving approximately $9.5 million for a variety of experimental computer research facilities.

The extent of the information technology sector and the pervasive use of computers throughout society suggest that advances in computer science will have tremendous influence on future life styles. IEEE strongly endorses this program.

The third activity of interest to IEEE is the materials research laboratories program element within the Mathematical and Physical Sciences Directorate, with a proposed budget of $23,540,000, an increase of 14.3 percent over the revised fiscal year 1981 budget. This program element supports 13 university laboratories which provide interdisciplinary and interdepartmental experimental research facilities.

In all cases, faculty and graduate students in electrical engineering are involved. Individual project grants are usually too small to afford the type of shared laboratory facility which NSF successfully established in this area. IEEE endorses this program.

SPACE SHUTTLE FLIGHT

Proceeding to NASA, I am pleased to join the Congress in complimenting the NASA contractor team and the program directors for the successful first orbital flight of the Space Shuttle. It was a highly visible demonstration of the great potential of American engineering when effectively applied to an extremely challenging objective.

I am emphasizing the engineering aspects of the Shuttle because it was overwhelmingly an engineering project, not dependent upon scientific breakthroughs, but almost entirely the product of a sophisticated application of our know-how to the design and construction of a complex system.

The IEEE recognizes and supports the need for research, both in scientific fields and in engineering, but we also believe it is critical to stress our technological capabilities and their applications to restore our international competitiveness.

It is indeed ironic, Mr. Chairman, that at this moment of great technical achievement, NASA should be facing a significant reduction in its planned program of space missions. Recognizing the need for fiscal restraints, difficult choices are required.

It would be unrealistic for me to suggest restoration of any significant fraction of the proposed cuts. Let me suggest, rather, some criteria that may be applied to the NASA program in reconsidering the extent of such budget reductions. The criteria are: One, uniqueness; that is, does the mission provide a first look at a new area, phenomenon, or object? Two, launch window—is there a special opportunity available because of either unique positioning of objects in space of intensity of activity?

Three, personnel—is the team of experimenters and technical support personnel adequate and available? Will critical elements of this team dissipate if the mission is delayed or deferred? How difficult and expensive will it be to recreate these skills?

Four, sunk costs—what funding commitment or investment has already been made to the mission?

Five, international relations—what negative impact will it have on present or future cooperative activities which may be desirable because of their potential for cost savings or improved scientific returns?

Six, secondary effects—will the withdrawal or cancellation affect the U.S. image in the way we are perceived at home and abroad?

Seven, competition—are we likely to be losing an important competitive position vis-a-vis the Soviet Union or other space-faring nations?

In applying these criteria, Mr. Chairman, it is clear that continuation of the Galileo Mission to Jupiter and, particularly, the Space Telescope, are of high priority, and the IEEE supports the administration request in this area. In addition, it appears highly desirable to reverse the decision to curtail the International Solar Polar Mission and continue this program in order to take advantage of both the unique observation perspective that dual mission will provide as well as the cooperative funding and support of this undertaking by the European Space Agency.

We are concerned that measures taken for short-term expediency may have long-term and lasting effects, and we strongly support continuation of the ISPM.

U.S. LEADERSHIP ROLE IN SPACE

Mr. Chairman, today—when we are shrinking our horizons regarding our future in space—I believe it is useful to recall the basic foundations of our space efforts. In the Space Act of 1958, Congress specified that the United States be a leader in the development and use of space technology for the benefit of all mankind. In the past 23 years, we have accepted and carried out that mandate with a remarkable degree of success, largely due to the dedication of the people at NASA and its industrial contractors.

In the 1980's, we at IEEE believe it is important for the United States to continue to work to maintain its leadership position in the development and use of space systems. In order to achieve this objective, we believe the United States should provide adequate funding for: One, programs that will lead to an expansion of Earth orbit commercial activities; two, the exploration of our solar system and the universe beyond; and three, extension of the Shuttle capability through acquisition of additional Shuttle orbiters and development of associated booster systems for orbital transfer for deep space missions, improvements to extend time in orbit for the Shuttle, and permanently manned orbital habitats.

We believe that a balanced space program, with exploration of new opportunities in each of the above areas, will yield important benefits to the Nation through the new commercial services that will result, increased scientific knowledge, and improvement in our level of technology.

In addition, we believe there will be other long-term benefits to the Nation from the exploration of space that are difficult to quantify at this time. But this we mean that our national space achievements are a positive motivating force—to our youth, to the Nation, and to the world. IEEE supports the continuation of a national civil space effort that maintains these positive values.

Mr. Chairman, this completes my prepared testimony. I ask that my total statement be included in the record.

Ms. FISHER. Your entire statement will be included in the record. I just want to comment on the seven points which you went over in your statement concerning decisions on the proposed budget reductions. I think it is interesting to point out that when Senator Garn made his recommendations concerning the administration's rescission proposals for NASA, specifically SEPS and ISPM, he took into consideration similar criteria.

Unfortunately, the conference committee did not agree to the level of funding recommended by the Senate for SEPS and ISPM, but I think we have kept these two projects alive, at least for now.

Mr. FAGAN. Very good.

Ms. FISHER. Thank you very much for appearing here today.

[The statement follows:]

Statement of Thomas L. Fagan, Institute of Electrical and Electronics Engineers

Mr. Chairman, members of the Subcommittee, it is a privilege for me to have this opportunity to appear before you at this time as a representative of the Institute of Electrical and Electronics Engineers (IEEE). Last year I participated in 32 hearings of the Senate Armed Services Committee as a Special Assistant for Defense for Senator Strom Thurmond (R., S.C.). I had the good fortune to participate by serving as an IEEE Congressional Science and Engineering Fellow during 1980. With the increasingly difficult technical questions which face the Congress today, the Congressional Fellows Program allows for substantial scientific and engineering methodology to be entered into the decision-making process. Now I am becoming familiar with a new and somewhat different role as a close observer of the agencies being considered today, rather than as a participant. I am very pleased to be able to bring to you the views of the IEEE, the world's largest engineering society, with over 210,000 members worldwide and with more than 165,000 members in the U. S. These 165,000 U. S. members of the IEEE are vitally interested in making their views known on matters of public policy and on professional activities.

One of the most important issues facing the U. S. today is the continuing economic vitality of this nation. It is important, not only for our own citizens, but also for our allies throughout the world, who are dependent upon 1) our military strength to decrease the threat of aggression, 2) upon our food to decrease hunger, and 3) upon our technology to help provide needed goods and services. We recognize the threat which inflation poses to our economic vitality, and we support the Administration's measures to curb inflation.

We believe that technology is a key to economic vitality. Technology must be effectively utilized and advanced to provide better products and services, using labor, capital and raw materials more efficiently and productively than ever before. Since World War II the U. S. has been the world's technological leader. However, technological leadership is not a static condition. It requires continual attention and dedicated effort. If we fail to continue to improve and move forward, we will be challenged and overtaken in specific areas, as evidenced by the very significant Japanese and Western European competition in automobiles, consumer electronics and a variety of other consumer products. We will also be overtaken in military areas, such as space-based lasers, anti-satellite systems, quiet undetectable submarines and much strategic weaponry.

It appears to the IEEE that the U. S. must take measures that will strengthen private sector capabilities and utilize government support in areas where the private sector cannot be expected to invest. We believe this will require the formulation of a new technology policy for the U. S. if we are to remain technologically competitive. The outline of this policy is emerging. We suggest it include the following elements:

1) A reduction in unnecessary government involvement and in regulatory barriers to innovation;

2) Measures to improve capital formation and to encourage investment in new plant and new equipment to improve productivity;

3) Increased incentives for the private sector to invest in research and development, complemented by focused government support in long term, high risk key areas;

4) Education of adequate numbers of scientists and engineers -- maintaining the quality of our educational system and the people it produces; and

5) Trade policies that open markets to U. S. goods and services on an equitable basis and measures to remove unnecessary constraints imposed by present U. S. Tax or Antitrust Policies.

The precise nature of the measures that are needed in these areas remains to be defined and articulated. But it is important that we work now for a new understanding of the issues and a new consensus of the future shape of U. S. Technology Policy.

In my testimony today, while I will be focusing primarily on the FY 1982 budget proposed for NSF and NASA, two agencies that are very important parts of the Federal structure that support U. S. technology policy, I wish to emphasize the larger context in which our recommendations should be viewed.

The National Science Foundation is unique among Federal agencies in several respects -- it is the only agency with a part-time Board of Directors that sets agency policy, and the only agency whose mission is to promote the health of science. Over the past 31 years its budget has grown from a very modest initial appropriation to the current proposal of slightly over $1 billion for 1982. During that period it has carried out its mission with great care and distinction. I should point out, however, that its initial emphasis was on science, and even today its principal thrust is on science -- with engineering as a secondary role. Only within the last several years has the NSF been assigned a broader role in applied research and been allowed to contract to profit-making organizations. In the past year -- and this is most encouraging -- NSF has responded to a growing awareness of the need for increased attention to engineering and to the problems of technological innovation with an internal reorganization that created a new engineering research directorate and dispersed the applied science activities throughout the agency program offices. We applaud this move to increase the NSF focus on engineering and will be observing its progress toward this objective with great interest and in the spirit of cooperation.

It should be pointed out that less than two years ago the IEEE presented testimony to the Congress identifying the needs NSF is now attempting to meet and also suggesting that it would be desirable to establish a National Technology Foundation to carry out this mission. With the significant reduction in support for this year and similar cutbacks proposed in innovation programs in NSF, the issue regarding the desirability of a National Technology Foundation remains unresolved. It certainly seems clear that we, in the engineering community, need to do a much better job in redefining and defending such innovation-related initiatives regarding the nature of the Federal role in this area. Whether NSF will be able to provide needed Federal agency leadership in this task remains to be seen. Certainly, the director of the Office of Science and Technology Policy in the Executive Office of the President could take a leadership role in this regard and call upon NSF resources for support. The IEEE vigorously encouraged early action with respect to the appointment of a Presidential Science Adviser.

In summary, while supporting the moves NSF has made -- both organizationally and in the way it has responded to budget reductions -- we believe there are considerable concerns that need to be addressed. We plan to work toward the development of solutions with the NSF and with other government and non-government entities.

Returning to the budget proposals, there is one additional observation prior to addressing specific parts of the NSF and NASA programs. Today, though the total proposed for Federal spending for R&D is $40 billion, 53 percent of that total is projected for military purposes, up from 47 percent in FY 1981 and 44 percent in FY 1980. We understand the urgent need to rebuild our military forces. We must recover from previous unwarranted budget cuts if we are to remain a free nation. However, the result is that the civil objectives are being relatively more constrained in the budget before you now than in FY 1980 or 1981. There are other indicators that all point to a significant under-investment in R&D in the civil sector. Falling productivity rates, decreasing patent licensing and penetration of our markets by R&D-intensive products from abroad all reinforce this view. There are other factors that must be addressed also -- such as capital formation, interest rates, labor, improved technical management -- but these do not reduce the need for more R&D. In the current climate the majority of funding for the increase will undoubtedly have to come from the private sector. For this to occur, a number of incentives will be required, and a number of barriers must be lowered. But large areas will remain that have high social benefits and yet do not attract sufficient private capital. In those areas, the Federal government must play a key role in sponsoring the necessary supporting effort. NSF in particular has great responsibilities -- in basic research, science and engineering education, and in studying and stimulating innovation.

Mr. Chairman, there are three specific NSF programs I would like to comment on. The first area of great interest to the IEEE is the Division of Electrical, Computer and Systems Engineering under the engineering directorate, with a proposed FY 1982 budget of $28,440,000, an increase of 25.6 percent over the revised FY 1981 budget. The division programs in Automation, Bioengineering and Sensing Systems; Electrical and Optical Communication; Systems Theory and Operations Research; Quantum Electronics, Waves and Beams; Solid State and Microstructures Engineering; and Computer Engineering are intended to support investigations to gain new knowledge in engineering principles that are applicable to the creation of new electrical and electronic devices and the structuring and control of large-scale electronic systems. These basic research programs have relevance to applied research in various mission agencies and within the industrial sector, in such areas as communications, energy, transportation, automation and national defense. IEEE strongly endorses the support of these programs.

A second activity of NSF of interest to IEEE is computer research, under the Mathematical and Physical Science Directorate, with a proposed FY 1982 budget of $27 million, an increase of 25.1 percent over the revised FY 1981 budget. The program supports basic research in computer science, including theoretical computer science, software systems science, software engineering, intelligent systems, computer systems design and coordinated experimental research. Regular scientific research support is estimated at $17.5 million, leaving approximately $9.5 million for a variety of experimental computer research facilities. The extent of the information technology sector and the pervasive use of computers throughout society suggest that advances in computer science will have tremendous influence on future life styles. IEEE strongly endorses this program.

The third activity of interest to IEEE is the Materials Research Laboratories Program Element within the Mathematical and Physical Sciences Directorate, with a proposed budget of $23,540,000, an increase of 14.3 percent over the revised FY 1981 budget. This program element supports 13 university laboratories which provide interdisciplinary and interdepartmental experimental research facilities. In all cases, faculty and graduate students in electrical engineering are involved. Individual project grants are usually too small to afford the type of shared laboratory facility which NSF successfully established in this area. IEEE endorses this program.

Engineering as a profession is largely applied, but its scope includes engineering research and engineering science. Basic research in engineering deals with the discovery of new knowledge of engineering principles, and we strongly endorse the overall engineering directorate budget proposed for FY 1982.

Before going on to NASA, Mr. Chairman, I would like to touch upon one area that is of growing concern throughout the engineering community. That is the emerging crisis in engineering education. Today's demand for engineering graduates is great, and faculty positions are increasingly left unfilled, with the consequence that sometime in the future we will not be able to produce the qualified graduate engineers needed for our technological society. Coupled with the reduced number of faculty are the problems of aging or obsolete laboratory equipment and experimental instrumentation for engineering research. This is an alarming trend in an area vital to our ability to continue to provide high-quality graduates to our base of trained engineers. This is an area that requires attention. The restoration of some of the funds that were cut from instrumentation and science and education by the House Authorization markup appears very desirable as a first step. In parallel, NSF must begin to give greater attention to the development of measures to deal with specific problems of engineering education.

Proceeding to NASA, I am pleased to join the Congress in complimenting the NASA contractor team and the program directors for the successful first orbital flight of the space shuttle. It was a highly visible demonstration of the great potential of American engineering when effectively applied to an extremely challenging objective. I am emphasizing the engineering aspects of the shuttle because it was overwhelmingly an engineering project, not dependent upon scientific breakthroughs, but almost entirely the product of a sophisticated application of our know-how to the design and construction of a complex system. The IEEE recognizes and supports the need for research -- both in scientific fields and in engineering -- but we also believe it is critical to stress our technological capabilities and their applications to restore our international competitiveness.

It is indeed ironic, Mr. Chairman, that at this moment of great technical achievement, NASA should be facing a significant reduction in its planned program of space missions. Recognizing the need for fiscal restraints, difficult choices are required. It would be unrealistic for me to suggest restoration of any significant fraction of the proposed cuts. Let me suggest, rather, some criteria that may be applied to the NASA program in reconsidering the extent of such budget reductions. The criteria are:

1) Uniqueness -- That is, does the mission provide a first look at a new area, phenomenon or object?

2) Launch Window -- Is there a special opportunity available because of either unique positioning of objects in space or intensity of activity?

3) Personnel -- Is the team of experimenters and technical support personnel adequate and available? Will critical elements of this team dissipate if the mission is delayed or deferred? How difficult and expensive will it be to recreate these skills?

4) Sunk Costs -- What funding commitment or investment has already been made to the mission?

5) International Relations -- What negative impact will it have on present or future cooperative activities which may be desirable because of their potential for cost savings or improved scientific returns?

6) Secondary Effects -- Will the withdrawal or cancellation affect the U. S. image in the way we are perceived at home and abroad?

7) Competition -- Are we likely to be losing an important competitive position vis-a-vis the Soviet Union or other space-faring nations?

In applying these criteria, Mr. Chairman, it is clear that continuation of the Galileo Mission to Jupiter and particularly the Space Telescope are of high priority, and the IEEE supports the Administration request in this area. In addition, it appears highly desirable to reverse the decision to curtail the International Solar Polar Mission and continue this program in order to take advantage of both the unique observation perspective that dual mission will provide as well as the cooperative funding and support of this undertaking by the European Space Agency (ESA).

We are concerned that measures taken for short-term expediency may have long-term and lasting effects, and we strongly support continuation of the ISPM.

Mr. Chairman, today -- when we are shrinking our horizons regarding our future in space -- I believe it is useful to recall the basic foundations of our space efforts. In the Space Act of 1958, Congress specified that the U. S. be a leader in the development and use of space technology for the benefit of all mankind. In the past 23 years, we have accepted and carried out that mandate with a remarkable degree of success -- largely due to the dedication of the people at NASA and its industrial contractors. To me, it is remarkable that a development so revolutionary and complex as the space shuttle can be acnieved over the period of a decade of rising inflation with such minor cost growth over the original estimates. Compared with other development programs in DOD and elsewhere, NASA has done a superb job. But during the period of shuttle development, many opportunitites and new initiatives in space have been delayed or deferred, and overall funding for the civil space program has been severely constrained.

In the 1980s we at IEEE believe it is important for the U. S. to continue to work to maintain its leadership position in the development and use of space systems. In order to achieve this objective, we believe the U. S. should provide adequate funding for:

1) Programs that will lead to an expansion of earth orbit commercial activities;

2) The exploration of our solar system and the universe beyond; and

3) Extension of the shuttle capability through acquisition of additional shuttle orbiters and development of associated booster systems for orbital transfer for deep space missions, improvements to extend time in orbit for the shuttle and permanently manned orbital habitats.

We believe that a balanced space program, with exploitation of new opportunities in each of the above areas, will yield important benefits to the nation through the new commercial services that will result, increased scientific knowledge and improvement in our level of technology In addition, we believe there will be other long-term benefits to the nation from the exploration of space that are difficult to quantify at this time. By this we mean that our national space achievements are a positive motivating force -- to our youth, to the nation and to the world. IEEE supports the continuation of a national civil space effort that maintains these positive values.

Mr. Chairman, this completes my prepared testimony. I will be pleased to answer any questions you may have.

CONSUMER PRODUCT SAFETY COMMISSION

STATEMENT OF LOUIS L. ABRAMSKY, PRESIDENT, COUNCIL 250, AMERICAN FEDERATION OF GOVERNMENT EMPLOYEES, AFL–CIO

Ms. FISHER. Our final witness is Louis L. Abramsky.

Mr. ABRAMSKY. Mr. Chairman and members of the committee, I am Louis L. Abramsky, president of Local 3477 of the American Federation of Government Employees, AFL–CIO. I am also the newly elected president of AFGE Council 250, the Joint National Council of Consumer Product Safety Commission Locals which represents Federal employees in the Consumer Product Safety Commission nationwide. I appreciate the opportunity to appear before the committee today and comment on the impact of the administration's fiscal year 1982 budget proposals for the Consumer Product Safety Commission.

CURTAILMENT OF COMMISSION ACTIVITIES

The administration's budget request for fiscal year 1982 proposed to drastically curtail both the size and scope of the Consumer Product Safety Commission's activities. Some opponents of the Commission have suggested that CPSC's mission has been accomplished, in large part, over the past years, and the agency's activities should be severely curtailed in the future.

This is a view which the current administration apparently shares, although it was refuted by the current head of Consumer Product Safety Commission, Commissioner Stuart Statler, because implicit in the fiscal year 1982 budget request is a 40-percent reduction in the number of nonmanagerial field staff and a 15-percent reduction in the number of nonmanagerial headquarters personnel, as well as the elimination of three field laboratories used for testing.

Whereas the cuts proposed in managerial personnel totals less than 5 or 10 percent. Even without the proposed cuts, the agency is top-heavy with managerial personnel. Some supervise two or three people and they receive very high salaries.

Throughout the course of our brief history, the Consumer Product Safety Commission has been criticized for its inability to deal effectively with the industries it regulates.

As the exclusive representative of the employees in the Consumer Product Safety Commission, AFGE believes that one of the principal reasons for this inadequacy is the lack of field experience among many of the high-level managers in Washington.

We believe that the size of the CPSC field staff must, at the minimum, be maintained at current levels. The lack of field experience among agency managers in Washington simply underscores the necessity of maintaining an efficient and highly-trained staff of field investigators whose responsibilities include a variety of critical areas.

For example:

FIELD INVESTIGATORS RESPONSIBILITIES

One, product recalls—it is the field investigator's responsibility to review a business firm's files and inventory to evaluate the firm's compliance with a recall mandate. Two—let me read that again. Product recalls; It is the field investigator's responsibility to review a business firm's files and inventory to evaluate that firm's compliance with a recall mandate.

Recalls are currently the most commonly used method of removing hazardous products from the marketplace and the presence of highly trained field staff conducting on-site evaluations is clearly the most effective method of assuring compliance. A letter from CPSC headquarters in Washington simply does not have the same effect.

Two, on-site investigations—it is also the field staff's responsibility to follow up on consumer complaints, even if this means going to the consumer's home. Without adequate field personnel, CPSC would be unable to conduct these thorough investigations of consumer complaints and we would lose valuable input from the single most important source of information we have about product design and safety—the American consumer.

Three, industry screening programs—investigators involved with the industry screening program, particularly in the toy screening area, have been highly successful in uncovering a number of potentially hazardous products before they reached the marketplace where their dispersion could have resulted in injuries and/or deaths.

These investigations, which begin at the point of the product's manufacture, are critical if the Commission is to gauge industry's compliance with specific regulations or to evaluate the effectiveness of self-imposed industry standards. This effect would be impossible without an adequate field staff.

Four, emergency responsiveness—an extensive field staff is critical when dealing with emergency situations which require a swift nationwide response.

Incidentally, the Commission only has about 200 field investigators, at the most, presently.

For example, if a department store chain was marketing an extremely hazardous product, CPSC field investigators could, within a matter of hours, be situated at every major distribution center and retail outlet in the store's chain.

In combination with a public awareness campaign directed by the headquarters staff and the on-site assistance of the Community Services field staff, the potential of alerting vast numbers of consumers to the hazards of the product, thus, slowing or preventing its consumption, is enhanced.

Five, destruction of hazardous goods—many consumer products, which are in violation of the Commission's standards and regulations, cannot be made safe through reconditioning. In these cases, once the firm's recall program has been completed, the products are destroyed to prevent their reintroduction into the marketplace.

The CPSC field investigator witnesses the final disposition of the product in question as a safeguard against the possibility that the defective product could be remarketed for consumption by unscrupulous business concerns.

Six, sampling—every violation of statute or regulation upon which the Commission takes action requires the submission of a violative sample. These samples are selected, at random, from among the questionable inventory to determine if a product is hazardous or defective and what percentage of the inventory is hazardous or defective.

It is only after this sampling determination is completed that the Commission proceeds to take corrective action, if required. A truly representative sample, and one which is statistically sound, can only be collected by adequate numbers of skilled on-site investigators.

FIELD LABORATORIES

Another area where the administration's budget proposals are devastating to the Commission is in the proposal to eliminate three field laboratories. We believe that such action will relegate the Consumer Product Safety Commission to a reactive rather than active position and make the mission of the agency impossible to accomplish.

The field laboratories are the Commission's only facilities for testing potentially hazardous household products. Yet, when attempting to justify elimination of three of the facilities, the administration uses cost-sample analysis data which has been inflated by comparisons of sample analyses which have been contracted out to private laboratories.

The administration also constantly overstates the operating budgets for the three laboratories.

Our figures show that the cost of operating the three laboratories including rent, payroll, and miscellaneous costs is $500,000; not the $1 million CPSC management alleges. The operating budgets of the three targeted field laboratories continue to be comparable to the budgets of field laboratories in other agencies with similar missions; certainly, the budgets are modest when compared with the tremendous cost increase that will occur if the laboratories are closed and the work is contracted out to private concerns.

We believe that instead of closing the three field laboratories, the Commission should seek to maximize their effectiveness by: One, vastly reducing the number of samples contracted out to private laboratories and retaining the work in-house. This would greatly reduce overall costs as well as lowe the cost-per-sample analysis standard.

Two, increasing the scope of the laboratories' work by reauthorizing testing of certain product categories. The Commission's laboratory staff excels, for example, in corrosion testing—this deals with home insulation testing, and their skills in this area should be utilized for the public good; and, three, increasing the present staffing levels to reduce employee overload and to increase overall employee and unit efficiency.

In conclusion, Mr. Chairman, we would like to reiterate the sentiments of Chairman Statler when he appeared before the Congress on April 7, 1981, and stated that the Consumer Product Safety Commission has an unfinished agenda of critical responsibilities which it should be allowed to see through to completion.

UNTESTED PRODUCTS ENTERING MARKETPLACE

In today's highly technological and competitive society, vast numbers of new and untested products are entering the marketplace every day. Yet, defects in product design and materials continue to present serious risks to the health and safety of the American consumer.

Even products which have been in use for many years are now being found to pose latent and long-term hazards to health. Without a strong and effective Consumer Product Safety Commission to monitor these products, the consumers of this Nation would be left to the mercies of the business community to protect them from hazardous consumption.

We urge this committee to restore full funding at all levels for the continuance of the Commission's critical mission. If there has been any fault whatsoever with the operation of the Commission, whether it be ineffective communications with industry, misguided regulations injurious to industry, inefficiency in conducting standards development, or insensitivity to the needs of industry and the consumer, these inadequacies can and should be laid at the feet of Consumer Product Safety Commission managers and supervisors who are, in large part, unqualified for the positions they hold—see Civil Service Commission investigative report on the Consumer Product Safety Commission, January 12, 1978—and not on the rank-and-file Federal employees who are doing an outstanding job in the consumers' behalf. I saw something the other day in the morning Times entitled—and I am submitting for the record a recent article, this recent article—it is entitled, "Paint Use Is Linked to Artists' Cancer."

I feel that the same holds true for the general public, as well, who come in contact with art materials such as children, students, teachers, and people who enjoy painting or sculpting or some kind of other pursuit dealing with art as a hobby.

The Consumer Product Safety Commission regulates these substances under the Federal Hazardous Substances Act. Benzene, the chemical benzene, was banned under the FHSA regulations by the Commission because the Commission found that benzene was linked to leukemia. That is why today, when you go shopping in a store, you cannot find benzene. There are many other chemicals around that the Commission is doing research on and investigators are finding things out through their field investigations.

Ms. FISHER. We will be happy to include this newspaper article in the record.

Mr. ABRAMSKY. Thank you.

[The article follows:]

[From the New York Times, May 16, 1981]

PAINT USE IS LINKED TO ARTISTS' CANCER

By Ben A. Franklin

WASHINGTON.—A mortality study of artists who devoted lifetimes to working with solvents and pigments that may have contained known or suspected toxic substances has revealed a greater number of deaths than expected from some types of cancer, according to scientists at the National Cancer Institute.

Researchers obtained the death certificates of 1,598 professional artists whose obituaries appeared in "Who's Who in American Art" from 1940 to 1969. The certificates represented about 75 percent of the number to be used in the final study.

Comparing the artists' causes of death with the expected frequency of the same causes among the general population, the researchers found a statistically significant increase in deaths from cancer among the artists.

The study's preliminary findings come at a time when growing awareness of the health risks involved in prolonged exposure to solvents and chemicals in paints, not only by artists but also by a much larger number of industrial painters, is stirring controversy over stricter and more comprehensive labeling indicating the possible hazards of such products.

OPPOSITION BY INDUSTRY

In its regulatory freeze, the Reagan Administration has tabled a regulation for tighter labeling that was proposed by the Occupational Health and Safety Administration and vigorously opposed by the paint and solvent industry. However, measures that would legislate a strict labeling requirement for paint products are pending in Congress and in the New York State Legislature.

Through the manufacturers' council of the National Art Materials Trade Association, a number of large producers and distributors of art supplies are seeking to block such legislation by proposing a voluntary hazards-labeling standard, to be effective in 1982.

The council's chairman, Patrick Indence of Binney & Smith, a manufacturer of artists' pigments, said Wednesday that he was not aware of the National Cancer Institute study but declared, "If there are any hazards, we are going to control them. You think we want people to die?"

Mr. Indence also questioned the validity of a mortality study that did not specify the materials used by the artists; for example, some could have used oil paints, and others, water colors.

RESPONSE TO CRITICISM

Barry Miller, a Public Health Service epidemiologist who is the senior scientist in charge of the study, called Mr. Indence's remarks "a criticism that could easily be made and that we expected." He said that the study was designed to generate a hypothesis for future use with more refined techniques and more precise information.

Nevertheless, Mr. Miller said that excess deaths from specific kinds of cancer were pronounced among artists, particularly painters. In the study, 568 of the artists were painters; the others were in various areas, including sculpting and silk-screening. The sample included 1,253 men and 345 women; 45 percent of the men and 70 percent of the women were painters.

In an interview, he said that "the strength of the association of bladder cancer and leukemia in painters is startling" and that solvents were implicated in the incidence of leukemia.

Excess deaths from leukemia, or blood cancer, and from bladder cancer were confined to painters in the study. Among them, Mr. Miler said, 13 bladder cancer deaths were found, as against the 4 deaths expected in a similar sample of white males in the general population. Nine deaths among those male painters were attributed to leukemia, as against three expected among the same number of persons in the population at large.

LEGISLATORS PRESS FOR NEW LABELING

The study found that the proportion of deaths from cancer of the colon was significantly higher among sculptors. They also showed significantly elevated deaths from prostate cancer. The women studied showed higher than expected proportions of cancer of the rectum, lung and breast.

Mandatory hazards-labeling requirements for art supplies are being sought by two legislators from New York City.

One of them, Representative Frederick W. Richmond, Democrat of Brooklyn, has sought passage of such a statute in Congress for 3 years. He has charged that "hundreds, even thousands, of artists nationwide have become unnecessarily ill because they inadvertently misused their materials."

Last week Mr. Richmond testified at a Greenwich Village hearing of a consumer affairs committee headed by New York Assemblyman Jose E. Serrano, Democrat of the Bronx, the other principal advocate of labeling reform. Mr. Richmond said that passage of a New York State labeling law would have a significant effect because industry figures show that about 20 percent of all artists' materials are sold in New York City and it would be difficult or impossible for the manufacturers to supply two sets of product labels.

Mr. ABRAMSKY. In closing, I would like to thank the committee for its time. I would be happy to respond to any questions you may have.

Ms. FISHER. Thank you very much for appearing today. I apologize that Senator Garn had to leave the hearing, but the housing authorization bill is on the floor today. He and other members of the subcommittee have had a very hectic week in completing action on the supplemental/rescission bill. I am sorry Senator Garn was not able to return before the conclusion of these hearings.

Mr. ABRAMSKY. Right; thank you.

ADDITIONAL PREPARED STATEMENTS

Ms. FISHER. Unfortunately, some people who wanted to testify before the subcommittee were unable to appear either yesterday or today. Therefore, I would ask unanimous consent that the testimony of these individuals be included in the record at this point.

[The statements follow:]

Statement of Bruce Coe, Executive Director, New Jersey Housing Finance Agency

Mr. Chairman, and members of the committee. I am Bruce Coe, Executive Director of the New Jersey Housing Finance Agency (NJHFA). I am submitting this testimony as a representative of the New Jersey Department of Community Affairs, of which the NJHFA is an integral part. Our department is committed to solving the human and physical problems of our communities, such as our deteriorating housing stock, and declining tax ratables. The department has an established record of improving the quality of life in our State.

My reason for submitting testimony is to discuss the HUD FY 1981 proposed rescissions and the recommended FY 1982 budget. I will focus on the impact these funding reductions would have on our State. The areas that I will address are Section 8 new construction and substantial rehabilitation funding levels, Section 107 state technical assistance grants, the Community Development Block Grant program and public housing operating subsidies.

SECTION 8 NEW CONSTRUCTION AND SUBSTANTIAL REHABILITATION FUNDING LEVELS

The New Jersey Housing Finance Agency is a public lender that uses private capital to provide mortgage loans to non-profit and limited dividend sponsors for the development of privately-owned low and moderate-income multifamily housing. It raises funds for this public purpose through the sale of bonds to private investors. These bonds have consistently received A1 and AA ratings from the major rating services. Since 1968, the Agency has raised more than $1 billion from private investors to provide loans for the construction or rehabilitation of 29,636 apartments for senior citizens and families, benefiting more than 77,000 persons. Federal subsidies, supported by many members of this Subcommittee, have been critical in producing this housing. The majority of this housing has been built in urban centers regarded as too risky by private lenders. In cities like Newark, Paterson, and Jersey City, the NJHFA represents the predominant, and in some cases the only, source of financing for rental housing construction and rehabilitation.

Although the Agency has invested in high risk areas, it has experienced no foreclosures. The Agency's 65 Section 236 projects, for example, are all running well. This is due largely to NJHFA's stringent underwriting procedures and careful ongoing analysis and review by its professional and technical staff. This staff includes architects, engineers, real estate development experts, accountants, and property management experts.

The demand and need for Agency housing has been staggering as evidenced by the number of applications for the limited supply of units made available. For example, in Camden, 2,400 households competed for 420 new family and senior citizen units. In Paterson, 3,200 applicants competed for 143 family units. Long waiting lists for senior citizen projects are common.

The Agency is also an important stimulus for the local or area economy through the labor and materials required for Agency projects. Of every dollar supplied, 31.5 cents is spent for construction wages and related benefits; 38.5 cents is used for materials and building services.

By providing financing for the construction and substantial rehabilitation of multifamily low and moderate-income rental housing, NJHFA is endeavoring to meet a critical and continuing need. In 1980, for example, the Housing Assistance Plans for New Jersey's local recipients of Community Development Block Grant funds called for 10,104 units of new construction and 5,061 units of substantial rehabilitation for low and moderate-income persons. However, because the 1980 Section 8 Housing Assistance Program allocation for the state was only 1,899 units of new construction and 723 units of substantial rehabilitation, a large shortfall occurred. In just one year there was an unmet need amounting to 8,205 units of new construction and 4,338 substantially rehabilitated units. A variety of economic and demographic factors such as high interest rates, shortages of housing capital, the unusually rapid increase in household formations, condominium conversions, and shifts in population patterns have coincided to produce inadequate construction of conventionally-financed new and affordable rental units and depletion of the existing rental stock. The demand expressed in New Jersey's 1980 Housing Assistance Plans will continue to grow, creating an increasing gap between the need for new and substantially rehabilitated rental housing and the Agency's production of these units. Nationwide, the rental housing supply shortfall in the decade of the eighties is projected to be 1.25 million units, assuming the Federal government's role in assisting in the construction of new apartments remains roughly the same as it was during the seventies. To reduce the funding for the new construction and substantial rehabilitation portions of the Section 8 program would be to exacerbate further this housing shortage, particularly for low-income persons.

Since the growth of income for low-income persons is not keeping up with housing costs, there is a need for a continuing commitment at the Federal level to the new construction and substantial rehabilitation of apartments that will expand the housing supply for low and moderate-income people. We support the thrust of the Administration's Economic Recovery Program, for when inflation subsides and interest rates are reduced, the housing industry will benefit as will all participants in our economy. Under more favorable economic conditions, with lower interest rates, more housing could be produced. However, even in such improved circumstances, rental housing will not be affordable to many low and moderate-income people. Rents in many areas of New Jersey already exceed the ability of these tenants to pay. Moderating the effects of inflation will not enable the vast majority of low and moderate-income renters to obtain decent housing. Only through a continuing commitment to new construction and substantial rehabilitation of affordable housing can the benefits of economic recovery, increased investment and reduced unemployment be provided to that segment of the population which has simply been priced out of the tightening rental housing market.

Funding levels for the new construction and substantial rehabilitation component of the Section 8 Housing Assistance Program must not be reduced so low as to create a housing crisis for low and moderate-income renters. The issue is not simply how to reduce the aggregate budget authority for assisted housing, but how to control spending and program growth while serving a larger portion of the eligible population. A greater degree of effectiveness and efficiency can be achieved and a more direct impact of federal assistance on the rental housing shortage can be realized through the tailoring of program funding changes to cost containment opportunities. Housing Assistance Block Grants could offer new approaches to producing housing assistance in a cost effective manner. For the past year, NJHFA has in fact had its own Cost Containment Task Force to develop ways of keeping the costs of Section 8 new construction and substantial rehabilitation projects down while continuing to meet as much of the need for such housing as possible.

Savings can be achieved in ways that, unlike deep cuts in funding for housing assistance programs, achieve economies without undermining much needed construction and rehabilitation of affordable rental housing. For example, in states like New Jersey, there is a great need for substantial rehabilitation of multifamily buildings in our older cities. A recent study by the Regional Plan Association, a research and planning agency serving the New York, New Jersey, and Connecticut Metropolitan region, indicates that energy consumption declines as population density increases. The multifamily and attached residential structures in our cities, if properly maintained, are far more economical to heat than single-family detached homes. Multifamily housing structures constitute 75% of the housing stock in Newark and a large portion of the housing in other urban areas. In terms of cost savings achieved through lower heating bills, these multifamily structures are a valuable resource. However, over the last decade Newark lost 5.2% of its housing stock, almost 7,000 units. Jersey City lost 4.4% of its housing, mostly multifamily. By preserving this valuable resource, through continuing support for assisted substantial rehabilitation, savings in energy costs can be achieved. As a major housing conservation tool, substantial rehabilitation of multifamily buildings can help bolster reinvestment and support reindustrialization in many New Jersey cities and the Northeast in general. Additional savings can come from locating people in cities in housing close to newly-created service and industrial jobs, thereby reducing transportation costs.

Cost savings can be accomplished while continuing to support housing assistance programs for new construction and substantial rehabilitation in other ways, as well. For example, multifamily housing which combines congregate services for the elderly and handicapped can save on federal outlays. As a result of a demonstration program, our Agency is currently undertaking an intensive review of congregate programs to determine the best type of project design and services.

The number of people living in New Jersey who are 65 years of age or older has increased 25% in the last decade; this figure is now estimated to be 850,000. 25% of this population is either at or below the poverty line while only 3% of the over-65 population currently live in subsidized housing. Nearly one third of the over-65 group are renters. Without enough assisted congregate units in Agency projects to meet the special needs of this population, these low and moderate-income elderly will be forced into nursing homes. The federal share of Medicaid assistance necessary to operate the nursing homes consistently exceeds the cost of a Section 8 assisted unit in the Agency's congregate developments.

An investment in congregate facilities can help contribute to a reduction in federal expenditures. Typical nursing homes in New Jersey cost $60 a day or $1,800 a month, much of these expenditures funded by the federal Medicare and Medicaid programs. Rents in the four NJHFA congregate projects, involving the congregate services, average $450 per month. It is obvious that many individuals who are in nursing homes could receive a proper level of services in a congregate facility. As an important contribution to a national housing strategy, this Subcommittee ought to support the new construction and substantial rehabilitation of units that include congregate services.

In assessing the costs and benefits of assisted housing programs for new construction and substantial rehabilitation, it must be noted that when units are built or improved, the resulting product is a resource that will be in existence for at least 30 or 40 years. Its continuous use by low and moderate-income people benefits not only these households but the community at large. While housing subsidy costs aggregated over 30 or 40 years may seem uncomfortably large when viewed from their inception point, no other federal assistance program provides such long-term benefits to the needy. Hence, housing assistance program costs are not exorbitant when compared to other programs on the basis of annual benefits. Unfortunately, these programs have consistently been viewed as if their long-term benefits had no special value. When questions as to how to reduce federal expenditures arise, assisted housing programs appear ripe for pruning due to deceptively large annual appropriations which actually will provide benefits for many years to come. For example, while proposed rescissions in FY '81 Assisted Housing budget authority amounted to $4.632 billion, FY '81 rescissions requested for Medicaid were $589 million, according to the Low Income Housing Information Service. Similarly, a proposed reduction of $8.688 billion in budget authority from the original FY '82 appropriation request for Assisted Housing was announced while only a $1.15 billion FY '82 reduction in Trade Adjustment Assistance was requested. Clearly, federal housing programs have received an inordinate share of proposed reductions at a time when the need for affordable rental housing is greater than ever.

Over the past fifteen years, state housing finance agencies (SHFAs) have developed a substantial capacity to meet the needs of low and moderate-income tenants through the construction and rehabilitation of multifamily housing. Without a continuing commitment by the Congress to the production of the units so desperately needed by households of modest means, these SHFAs cannot hope to address a need that will continue to grow throughout the eighties. SHFAs are respected in the housing industry for their technical expertise and in the bond market for their ability to attract private investors. NJHFA projects are not insured because of the rigorous and stringent underwriting and technical monitoring requirements that each is subject to. Yet, proposed reductions in the new construction and substantial rehabilitation housing assistance programs would reduce units for state agency set-asides by 5,000 for FY'81 to 25,000 and by another 5,000 units in FY '82 to 20,000, nationwide. Under this plan, NJHFA would be likely to receive 2,004 units for FY '81 and 800 units in FY '82. The Agency's production capacity ranges between 5,000 and 7,000 units a year and the state's need for new and rehabilitated low and moderate-income housing exceeds this capacity by 200 to 300 per cent annually. The requisite reductions in federal spending can be achieved by removing many program restrictions and enabling states and localities to design the most cost effective strategies to meet their needs. For example, mixed-income developments, where only a portion of the tenants receive subsidies, could effect such savings.

This Appropriations Subcommittee must continue support for the Section 8 New Construction and Substantial Rehabilitation Programs at a reasonable funding level at least until new programs can be devised. Given the identified needs in New Jersey's cities for newly constructed and substantially rehabilitated units, we recommend that the committee provide enough contract authority for 80,000 units for both fiscal years 1981 and 1982. This level is significantly below what was recommended in the Carter budget for both years, but places assisted housing reductions in reasonable proportion to budget cuts in other program areas. Without this support for new construction and substantial rehabilitation, numerous low and moderate-income households throughout the nation, who cannot afford market rate housing, will have little hope of finding decent, affordable housing.

HUD Technical Assistance Program

Another program of particular importance to the Department is the HUD Technical Assistance Program. For the past two years, HUD has made grants to the States under Section 107 of the Housing and Community Development Act of 1977. Since the source of these funds has come from a portion of the HUD Secretary's Discretionary Fund, we are very concerned that President Reagan's FY '82 budget appropriates 0 dollars to this fund.

The State DCA received two such grants ($300,000 in 1979, and $256,000 in 1980). In keeping with identified State and Federal priorities, professional services for local community and economic development needs targeted to the most distressed cities were provided through qualified staff. Workshops on the CDBG and UDAG programs and complementary State programs also were held for local officials. Housing rehabilitation training coupled with intensive on-site technical assistance directly stimulated local capacity to develop and successfully apply for neighborhood revitalization programs exceeding four million dollars in New Jersey alone. This total does not include similar local programs in the State stimulated by the staff and information resources enabled by these Technical Assistance grants to our State. The newly emerging federal priorities in the areas of community and economic development cry out all the more for enhanced State capacity to relay the best information and quality technical assistance to distressed communities in our State. If a new beginning has been noted at the federal level, we want New Jersey, as well as other States, to be "at the ready" with the tools and resources needed in the sensitive area of community development. Section 107 (CDBG Technical Assistance) grants represent just such an investment.

Program Consolidation Under Community Development Block Grant

Of major importance to the State of New Jersey is the proposed consolidation of the UDAG, 312 Rehabilitation and 701 Comprehensive Planning Programs into the Community Development Block Grant (CDBG) Program. New Jersey has been active in utilizing each of these programs and will suffer major consequences as a result of the consolidation.

At this point, I would like to discuss the merits of each of these programs in relationship to New Jersey's activities.

As you know, Section 701 funds provide assistance to states, areawide planning organizations, and local governments for the development of comprehensive land-use plans and the development of strategies to implement such plans.

The Department of Community Affairs is responsible for the administration of the State's 701 Planning Program. With these funds, our State has been able to provide technical assistance, both directly and indirectly, to all municipalities in New Jersey. In addition, we have been able to analyze all of the major land-use issues affecting New Jersey's growth and development. Largely through the benefits of 701 assistance there has evolved a strengthened, more comprehensive planning process in New Jersey.

Although CDBG funds are available to municipalities to support planning activities, in reality, municipalities currently do not receive sufficient funding to carry out their established objectives, and most likely, will not include planning activities in their list of priority projects. In addition, the communities who are not qualified to receive CDBG funds will have no other source of funds to implement their land-use planning needs.

The Urban Development Action Grant (UDAG) Program has been successfully utilized in New Jersey since its inception in 1977. New Jersey currently has 47 projects being funded out of UDAG in the amount of $67,351,068. The private commitment amounts to $389,030,430 for a combined total of $456,381,498.

The regulations governing the program require firm private sector commitment to a project before UDAG funds are awarded. This requirement separates and distinguishes the Action Grant Program from earlier efforts at urban revitalization. This requirement is based upon the recognition that public funds alone are insufficient to revitalize cities. The private sector is essential, working in partnership with local governments, to carry out economic development and neighborhood revitalization projects.

The UDAG program is designed for specific funding projects such as neighborhood revitalization and industrial development. Not all communities can utilize these funds: therefore, it is necessary that the competitive nature of the program be retained. In addition, by consolidating the program into CDBG, there is the potential for private sources of funding to "dry up" as a result of this new emphasis. Governor Brendan Byrne has gone on record stating that he is against the consolidation of the UDAG and CDBG programs. If you take away the integrity of the UDAG program, you lose one of the most valuable programs of the last decade.

We recommend that the UDAG program remain a separate entity at its current funding level of $675 million.

The 312 Rehabilitation Loan Program is also very important to New Jersey and serves as a key element in most local community development projects. The reason behind its success is that the loans provide sufficient funding to support large-scale rehabilitation efforts in single and multi-family dwelling units. Most CDBG recipients will be unable to commit a large portion of their CDBG funds to rehabilitation, and the end result will be increased abandonment.

The rate at which housing is lost each year contributes enormously to the housing shortage. In New Jersey, the loss of habitable dwelling units annually is not likely to diminish since forty-five percent of New Jersey's housing stock is over 40 years old. At a time when the conservation of existing housing stock is essential, the continuation of the 312 program is also essential.

At a recent meeting with State government representatives, Secretary Pierce indicated that his Department will be placing new emphasis on urban homesteading. The homesteading program transfers vacant HUD-owned properties to local governments, who then sell the homes at a minimal price to buyers who agree to occupy and rehabilitate the property. The 312 program is used to finance the rehabilitation efforts of the new homestead buyer. Without sufficient funding for 312, the urban homesteading program will not succeed.

The CDBG program cannot substitute the activities of the 312 program, particularly if funding is not added to the block grant to continue specific rehabilitation efforts. There are easily enough New Jersey applicants to spend three times as much money as the State usually receives each year. Therefore we recommend, at minimum, that the current funding level of $130 million be retained in Fiscal Years 1981 and 1982.

PUBLIC HOUSING OPERATING SUBSIDIES

The last area I would like to discuss concerns public housing operating subsidies. These low income public housing operating subsidies are provided to public housing authorities to assist in financing the operating costs. In New Jersey there are approximately 100 housing authorities with over 278 projects dependent on these operating subsidies for survival. The high costs of energy have far exceeded the revenues collected by the authorities. The Reagan budget does not include the supplemental monies needed to fund the utility cost overruns of the authorities. This lack of supplemental funding will mean further cuts in services, reduced maintenance and the further deterioration of our housing stock.

At this point in time, OMB has calculated that the FY '81 level will fall about $200 million short of the needs of the authorities. For FY '81, HUD had originally estimated that $140 million in additional funds would be needed to reimburse public housing authorities for the funding shortfall. The Carter Administration decided to seek only $100 million, assuming that the state- owned low-income energy assistance programs under the Home Energy Assistance Act could provide the additional $40 million. The Reagan proposal assumes that the energy program can cover the entire $140 million shortfall.

The low-income energy assistance program, however, also is slated for a cutback. Reagan wants to fold the program into energy and emergency assistance block grants, giving states complete flexibility over spending. The Administration is proposing funding of $1.4 billion compared to current 1981 funding of $1.856 billion. It is our contention that the program cannot meet the needs it originally was designed to serve, at decreased levels, as well as the additional demands of the public housing authorities.

In New Jersey, as elsewhere in the country, the Performance Funding System, used to calculate the level of operating subsidies, is approved at 85.5 percent of the entitlement, with adjustments for actual cost increases - particularly utilities - to be made at the end of the fiscal year. The problem is that it has already been recognized that operating subsidies will fall far short of the need during FY '81. The cumulative effect of the shortfall and performance funding system that shortchanges public housing authorities makes it difficult for the authorities to maintain minimal services, let alone a balanced budget.

Therefore, we recommend to the Committee the funding of $100 million supplemental FY '81 appropriation for public housing operating subsidies. Potentially, proposed FY '82 subsidies maybe sufficient but without considering the FY '81 shortfall and providing the supplemental appropriation, the authorities will not be able to maintain their existing housing stock and many will close

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Statement of Jerry F. English, Commissioner, New Jersey Department of Environmental Protection

BUDGET CUTS WOULD GREATLY DETER NEW JERSEY'S EFFORTS TO IMPROVE THE QUALITY OF THE STATE'S WATERWAYS THROUGH WATER POLLUTION CONTROL AND ABATEMENT. WITHOUT THE AVAILABILITY OF THE CURRENT FEDERAL GRANT LEVEL, THE STATE CANNOT FULFILL THE FEDERAL MANDATE TO ELIMINATE OCEAN DUMPING OF SEWAGE SLUDGE BY DECEMBER 31st OR IN THE NEAR FORESEEABLE FUTURE. IT WILL BE IMPOSSIBLE FOR MANY MUNICIPALITIES TO CONSTRUCT, REHABILITATE OR UPGRADE WASTEWATER FACILITIES NECESSARY TO ELIMINATE MAJOR INADEQUATE DISCHARGES INTO THE STATE'S WATERWAYS, CONTROL AND ELIMINATE GROUNDWATER POLLUTION FROM FAILING SEPTIC SYSTEMS, OR TO COMPLY WITH THE STATEWIDE SEPTIC MANAGEMENT PLAN.

THE PROPOSAL TO REDUCE THE AVAILABLE FY 80 MONIES BY $585 MILLION NATIONALLY WOULD RESULT IN A $24 MILLION (OR 20%) REDUCTION IN NEW JERSEY'S $119.7 MILLION ALLOCATION.

IN ADDITION, THE FY81 PROPOSED REDUCTION OF ONE BILLION DOLLARS NATIONALLY WILL RESULT IN $35.6 MILLION (OR 32%) REDUCTION OF THE NEW JERSEY ALLOCATION OF $112.6 MILLION.

IF THESE MASSIVE CUTS ARE, IN FACT, IMPLEMENTED, MANY PROJECTS IN THE PLANNING AND DESIGN STAGES FOR YEARS AND NOW READY TO PROCEED TO CONSTRUCTION WOULD HAVE TO BE ELIMINATED OR POSTPONED. THE STATE WILL BE IN THE DISASTEROUS POSITION OF FUNDING ONLY 40 PROJECTS ON A PRIORITY LIST OF 231 PROJECTS.

THE REDUCTION WILL PREVENT THE FUNDING OF A NUMBER OF NEEDED STEP 3 (CONSTRUCTION) PROJECTS SUCH AS THE ROCKAWAY VALLEY REGIONAL SEWERAGE AUTHORITY PROJECT. THIS PROJECT WAS AWARDED A DESIGN GRANT IN JULY 1980 AND WILL BE READY FOR CONSTRUCTION OF AN ADVANCED WASTEWATER TREATMENT FACILITY BY THIS SEPTEMBER AT AN ESTIMATED COST OF $60 MILLION. THE PROJECT SERVES THE ROCKAWAY RIVER BASIN WHICH HAS BEEN SUBJECT TO THE LONGEST STANDING BUILDING BAN IN THE COUNTRY (12 YEARS) DUE TO THE PRESENT INADEQUATE TREATMENT FACILITY. POLLUTION CONDITIONS FROM SEPTIC SYSTEMS HAVE REACHED A POINT IN CERTAIN AREAS SUCH THAT PEOPLE HAVE BEEN FORCED TO LEAVE THEIR HOMES. THIS PROJECT HAS BEEN ACTIVELY PURSUED FOR 15 YEARS AND HAS BEEN THE SUBJECT OF A FEDERAL ENVIRONMENTAL IMPACT STATEMENT AS WELL AS OTHER EXTENSIVE REVIEWS AT THE STATE AND FEDERAL LEVEL.

NO APPROPRIATION FOR FY82 WILL MEAN THAT NO PROJECTS CAN BE FUNDED DURING THAT YEAR SINCE ALL OF THE AVAILABLE GRANT FUNDS WILL BE EXHAUSTED IN NEW JERSEY DURING FY81.

IF THE BUDGET PROPOSAL FOR FY82 PROVIDES FOR A NATIONAL APPROPRIATION OF $2.4 BILLION, NEW JERSEY WOULD RECEIVE

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, ON BEHALF OF BRENDAN T. BYRNE, I WOULD LIKE TO THANK YOU FOR ALLOWING ME TO PRESENT NEW JERSEY'S CONCERNS REGARDING THE ENVIRONMENTAL PROTECTION AGENCY'S BUDGET.

NEW JERSEY IS ONE OF THE MOST DIVERSIFIED STATES IN THE COUNTRY.....FROM ITS HIGHLY INDUSTRIALIZED CITIES TO OUR MARSHLANDS AND SEACOAST AREAS. IT IS A MICROCOSM OF THE UNITED STATES. WE HAVE SOUGHT TO PROTECT THE ECOLOGICAL BALANCE, ENGENDERED IN SUCH DIVERSITY, BY AGGRESSIVE AND SIGNIFICANT ENVIRONMENTAL LEGISLATION.

AS A RESULT OF SURVEYS CONDUCTED BY THE STATE AND THE FEDERAL GOVERNMENT, NEW JERSEY RANKS FIRST NATIONALLY IN IDENTIFIED ABANDONED HAZARDOUS WASTE AND TOXIC SUBSTANCES DUMP SITES THAT MUST BE CLEANED UP. THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT OF 1980, BETTER KNOWN AS "SUPERFUND", WILL PROVIDE NEW JERSEY WITH FEDERAL FUNDS TO RESPOND TO EMERGENCIES DEALING WITH ACTUAL RELEASES OR THE THREATENED RELEASE OF HAZARDOUS SUBSTANCES INTO THE ENVIRONMENT. THE STATE HAS CREATED AND EXHAUSTED A STATE SPILL COMPENSATION AND CONTROL FUND TO CLEAN UP HAZARDOUS WASTE SITES. WE HAVE IDENTIFIED THE PROBLEM AND SOLVED IT TO THE GREATEST EXTENT OF OUR FINANCIAL RESOURCES. WE NOW NEED "SUPERFUND" MONIES FOR REMEDIAL ACTIVITIES, WHICH WILL DEAL WITH THE MOST URGENT ACTIONS AT THE MOST CRITICAL HAZARDOUS WASTE SITES.

THE FOCUS OF THE ADMINISTRATION'S EPA BUDGET ON HAZARDOUS WASTE DISPOSAL REFLECTS THE GOVERNMENT'S COMMITMENT TO CRITICAL NATIONAL ENVIRONMENTAL GOALS THAT HAVE BEEN ENACTED INTO LAW BY CONGRESS. WE HAVE 325 IDENTIFIED SITES IN NEW JERSEY WHERE CLEANUP IS REQUIRED. WE HAVE ASCERTAINED THAT MOST OF THESE SITES CONTAIN HAZARDOUS MATERIALS OR TOXIC SUBSTANCES AS DESIGNATED BY FEDERAL OR STATE REGULATION. MANY OF THESE SITES ARE STILL BEING SURVEYED TO DETERMINE THEIR SEVERITY OF CONTAMINATION AND THE MOST EFFECTIVE MEANS OF CLEANUP. WE ARE SURE THAT MORE SITES STILL REMAIN UNDISCOVERED.

THE FY82 AUTHORIZATION OF $200 MILLION AND THE $68 MILLION SUPPLEMENTAL REQUEST FOR THE FY81 FUNDING LEVELS FOR THE SUPERFUND ONLY BEGIN TO TOUCH WHAT IS PROBABLY THE MOST VISIBLE AND MOST DANGEROUS ENVIRONMENTAL ISSUE PRESENTLY FACING US. WE, THEREFORE, URGE YOU TO CONSIDER FUNDING THE FULL $250 MILLION AS REQUESTED IN THE CARTER FY82 BUDGET REQUEST OR EVEN MORE SINCE ALL OF THE WORST SITES SHOULD BE DEALT WITH SIMULTANEOUSLY. THE ADMINISTRATION'S PROPOSED $85.4 MILLION, A 25% REDUCTION FROM THE CURRENT FUNDING LEVEL. THIS WOULD COME AT A TIME WHEN THREE URBAN AREA PROJECTS ALONE WITH AN ESTIMATED COMBINED COST OF $650 MILLION (SERVING HUDSON, BERGEN AND CAMDEN COUNTIES) WILL BE READY TO GO TO STEP 3 CONSTRUCTION IN FY82.

THE STATE OVERALL NEEDS BASED ON A 1980 NEEDS SURVEY CONDUCTED BY EPA IS $6.466 BILLION OR 5.4% OF THE NATIONAL NEEDS. NEW JERSEY RANKS FOURTH IN NEEDS BEHIND THE LARGER STATES OF NEW YORK, PENNSYLVANIA AND CALIFORNIA. THE BUDGET REDUCTIONS PROPOSED FOR FY82 AND LATER WILL, THEREFORE, SIGNIFICANTLY IMPACT THE STATE'S ABILITY TO FINANCE THESE DOCUMENTED NEEDS. THE STATE OF NEW JERSEY AND ITS LOCALITIES DO

NOT HAVE THE RESOURCES TO CARRY OUT THESE CRITICAL PROJECTS WITHOUT ASSISTANCE.

NEW JERSEY RESIDENTS HAVE CONTINUOUSLY VOTED IN SUPPORT OF BOND REFERENDA TO PROVIDE FUNDING IN THE AMOUNT OF $451 MILLION FOR RESEARCH, PLANNING, DESIGN AND CONSTRUCTION OF WATER POLLUTION CONTROL FACILITIES. THE NEW JERSEY MUNICIPALITIES HAVE EXPENDED OVER $400 MILLION OF MATCHING FUNDS. IN ADDITION, A CAPITAL OUTLAY OF OVER $2 BILLION DOLLARS FOR OPERATION AND MAINTENANCE OF THE WASTEWATER FACILITIES HAVE BEEN PROVIDED.

WITHOUT CONTINUING ASSISTANCE, HOWEVER, THE OBJECTIVES OF THE CLEAN WATER AND THE WATER POLLUTION CONTROL ACT CANNOT BE FULFILLED AND THE QUALITY OF THE STATE'S WATER WILL DECLINE.

IT MUST BE REMEMBERED THAT, AS THE QUALITY DETERIORATES, THE COST OF TREATING THE WATER TO POTABLE QUALITY INCREASES SIGNIFICANTLY.

THE PACT THAT HAS BEEN CAREFULLY CRAFTED BETWEEN THE TAXPAYER AND THE GOVERNMENT IS A DELICATE BALANCE OF COMMITMENT AND FINANCIAL RESPONSIBILITY. WE CANNOT VIOLATE THAT PACT BY CUTTING PROGRAMS THAT PROVIDE ESSENTIAL SERVICES TO OUR CITIZENS.

AVAILABILITY TO COMPLETE THESE PROJECTS WOULD UNDOUBTEDLY SEVERLY DAMAGE THE DEPARTMENT'S CREDIBILITY IN THESE SPECIFIC LOCALITIES. FURTHERMORE, WE WOULD BE LEFT WITH A SITUATION IN WHICH AFTER PAINSTAKINGLY ASSESSING NEEDS AND RANKING COMPETING PROJECTS, WE FIND OURSELVES IN THE POSITION OF FUNDING ONLY 40 PROJECTS ON A PRIORITY LIST OF 231.

IF THE PROPOSED BUDGET CUTS ARE APPROVED BY CONGRESS, IT IS INEVITABLE THAT IMPORTANT PROGRAMS PROTECTING AND PRESERVING OUR AIR AND WATER WILL BE BROUGHT TO A HALT, THAT THE CLOSING OF PARKS AND LAKES WILL DENY PUBLIC ACCESS TO RECREATION AREAS IN OUR STATE.

PROJECTS WILL BE ABANDONED AT A POINT WHERE SIGNIFICANT REMEDIES AND RESTORATION NEEDS HAVE BEEN DEMONSTRATED. I URGE YOU TO PROVIDE FUNDS TO COMPLETE ONGOING PROJECTS SO THAT THE FEDERAL DOLLARS ALREADY SPENT WILL HAVE BEEN WORTHWHILE.

MR. CHAIRMAN, IN ANOTHER BUDGET AREA UNDER YOUR JURISDICTION, THE PRESIDENT HAS REQUESTED RESCISSION OF $68 MILLION FOR THE PROPOSED VETERANS ADMINISTRATION HOSPITAL IN CAMDEN, NEW JERSEY -- MONEY WHICH YOU APPROPRIATED IN FY80. WE STRONGLY OPPOSE ELIMINATION OF THE HOSPITAL. WITH YOUR PERMISSION, I WOULD LIKE TO SUBMIT FOR THE RECORD A LETTER TO YOU FROM GOVERNOR BRENDAN BYRNE JUSTIFYING THE NEED FOR THE HOSPITAL.

FOR YEARS NOW, WE HAVE CAREFULLY DOCUMENTED THE NEED FOR THIS HOSPITAL IN NUMEROUS FORUMS IN CONGRESS AND THE EXECUTIVE BRANCH, AND EACH TIME THE CASE FOR THE HOSPITAL HAS BEEN WON ON THE MERITS. IT IS DISTRESSING NOW THAT THE ADMINISTRATION HAS IGNORED ALL OF THESE ARGUMENTS, AND TAKEN AN ACTION ON SOLELY BUDGETARY GROUNDS, TO THE EXTENT THAT, AS WE UNDERSTAND IT, THE VETERANS ADMINISTRATION WAS NOT EVEN CONSULTED ON THE DECISION.

OF 1,100,000 VETERANS IN NEW JERSEY, SOME 300,000 VETERANS LIVE IN THE NINE SOUTH JERSEY COUNTIES, AND 700,000 IN THE SOUTH JERSEY-METROPOLITAN PHILADELPHIA AREA. BY 1990, ONE QUARTER OF THESE VETERANS WILL BE OVER AGE 65. CANCELLATION OF THE HOSPITAL IS A PARTICULARLY HARSH BLOW TO

THESE ELDERLY VETERANS BECAUSE THE VETERANS ADMINISTRATION WAS PLANNING A UNIQUE HOSPITAL SPECIALIZING IN GERIATRIC MEDICINE.

THE V.A. (VETERANS ADMIN.) HAS STATED THAT MEDICAL DISTRICT #4, WHICH INCLUDES SOUTH JERSEY IS LOWEST IN THE NATION IN TERMS OF BEDS PER VETERANS POPULATION. THE ONLY FACILITIES CURRENTLY AVAILABLE TO SOUTH JERSEY VETERANS ARE IN PHILADELPHIA AND EAST ORANGE. THE DEMANDS OF THESE HOSPITALS WILL GROW GREATER NOT LESSER, OVER THE NEXT TWO DECADES. AS THE VETERANS POPULATION AGES, THE NEED FOR THE CAMDEN HOSPITAL -- WHICH WILL PROVIDE ABOUT 25,000 PATIENT DAYS AND 72,000 OUTPATIENT VISITS YEARLY -- WILL BECOME GREATER IN THE 1980'S AND 1990'S.

IN ADDITION TO WASTING $7 MILLION OF FEDERAL MONEY ALREADY OBLIGATED TO THE PLANNING AND DESIGN OF THE HOSPITAL, THE RESCISSION IGNORES MILLIONS OF DOLLARS IN COMMITMENTS ALREADY UNDERTAKEN BY STATE AND LOCAL GOVERNMENTS AND PRIVATE ORGANIZATIONS. THE STATE HAS APPROPRIATED $8.5 MILLION FOR CONSTRUCTION OF AN ADJACENT CAMPUS FOR THE NEW JERSEY COLLEGE OF MEDICINE AND DENTISTRY. COOPER HOSPITAL HAS SPENT $45 MILLION FOR A MAJOR EXPANSION OF ITS FACILITIES AND SERVICES, INCLUDING SERVICES DESIGNED TO BE SHARED WITH THE V.A. HOSPITAL. THE CITY OF CAMDEN HAS CLEARED A SITE FOR THE HOSPITAL -- FAMILIES HAVE ALREADY BEEN RELOCATED -- AND HAS SPENT SEVERAL MILLION DOLLARS FOR TRANSPORTATION ACCESS, POLICE PROTECTION, WATER FACILITIES, AND OTHER NEEDS AND SERVICES FOR THE HOSPITAL. COMPANIES SUCH AS RCA AND CAMPBELL SOUP COMPANY HAVE DECIDED TO REMAIN IN CAMDEN PARTLY DUE TO THE PROMISE OF REDEVELOPMENT SPURRED BY THE MEDICAL COMPLEX.

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE, THE GOVERNOR, THE VETERANS, AND ALL THE PEOPLE OF NEW JERSEY URGE YOU TO REAFFIRM YOUR PREVIOUS SUPPORT FOR THE CAMDEN V.A. HOSPITAL, AND DENY THE RESCISSION REQUEST.

STATEMENT OF TOBIAS ANTHONY, DIRECTOR OF BUSINESS DEVELOPMENT AND WASHINGTON AFFAIRS FOR RESEARCH-COTTRELL

Mr. Chairman and members of the Committee. My name is Tobias Anthony, Director of Business Development and Washington Affairs for Research-Cottrell, the parent organization of Metcalf & Eddy. Mr. Peter Gianacakes, President of Metcalf & Eddy was to have joined me today, but had to travel to Europe.

The subject I will address today is the EPA's construction grants program. Metcalf & Eddy has been a pioneer in designing wastewater treatment plants for over seventy (70) years, both domestically and overseas. With more then 1,000 employees located in thirteen domestic offices and five project offices abroad, Metcalf & Eddy provides engineering services in every state and in many parts of the world.

I should like to address two subjects. One is the condition of the construction grants program as it affects the consulting engineering profession and the other is recommendations for a "new direction" towards reforming the program.

Condition of Construction Grants Program

It now takes 8-10 years to plan, design and construct a sewage treatment facility valued at approximately 10-20 million dollars. By contrast, it takes the same length of time to provide a billion dollar, 1,000 MW coal-fired power plant, including hundreds of millions of dollars of pollution control equipment. Only fifteen years ago it took half the time to do either project when inflation rates were a third of current rates. Why?

The reason lies in the inclusion of a myriad of laws and orders to protect and preserve every imaginable social or economic interest the mind can imagine. Not only have these laws caused an extension in the time it takes to provide these facilities, but these same well-meaning laws have caused the double-digit inflation rates that make prices of these facilities unconscionable. On the face of it, if costs and prices rose lock-step in an indexing way, who would argue with such a process. In reality, the shock resulting from escalating costs hits us periodically causing us to reassess whether we are receiving value for such prices, particularly when public funds are involved or power rates hit hard at consumers.

The construction grants program has undergone a number of these reassessments over it's lifetime and we now are undergoing another such evaluation. Each reassessment causes stops-and-starts that futher confound prudent planning and efficient execution of the process who's initial intention was to simply clean-up waters clearly becoming unfit for commerce, pleasure and well-being.

More than half of the time it takes to complete a facility involves planning and submission of plans and specifications. EPA reports that on average, for a plant that takes 92 months to complete, it takes 58 months for step one and step two. Those are phases where consulting engineers are the dominant factor and where efficiencies must be found.

Inefficiencies are caused by delays in funding, multi-tiered approvals and consideration of some 54 laws and orders which have to do with everything but reducing contaminants in wastewater. Funding delays and multi-level approvals can be easily cracked. The hard nut is those laws and orders. As you know, they involve consideration of historical and archealogical sites, environmentally sensitive areas, civil rights, wildlife, the Clean Air Act, endangered species, noise, bridges, solid waste, rehabilitation and on and on. We must reduce the number of these considerations.

No consideration remains fixed in time. Each law or order begets rules and guidelines which beget interpretations and appraisals which beget discussions and agreements and finally approvals.

Each change in those laws or orders starts the process over again. And of course some of these considerations are missed in the first step which causes the step to be scrapped and redone. Furthermore, it seems almost anyone can intervene in the process by siting accurately the law or order which gives him that authority. I have enclosed a list of those considerations in the attachment.

Effects on Consultant Engineers

You would think consulting engineers would profit from all this work. The average rate-of-return before taxes to our profession has shrunk from 10% to 6% in five years. This is due to two very important factors:

(a) Interruptions in the planning process cause our firms to retain personnel when there is no chargeable time

(b) Government procurement policies ignore added costs due to delays

I have also included in the attachment a typical example of how delays can erode profits. It reveals how the estimate for the cost of the project rose over time because of added considerations resulting in a net loss on the project of $45,000.

I need not tell you firms are finding this to be an unattractive business in light, too, of reduction in funding proposed in the future.

The program is too cumbersome to accomplish it's objective. In order to make fewer dollars more productive, we must shorten the cycle for planning, designing and constructing plants, eliminate multi-tiered approvals and institute a policy of predictable, long-term funding. I submit in addition the following suggestions:

Recommendations

- Funds should be targeted, as the Administration has suggested, towards those projects which will have the greatest benefits per dollar invested, and towards those which will benefit directly areas of urban-industrial concentration.

- There should be a singleness of purpose to design and build treatment plants which will result in the greatest benefit for the investment made. While I support innovative and alternative technology, such as land treatment and disposal, for consideration by consulting engineers, I feel strongly that unproven commercial technology should be more properly evaluated in a separate research-oriented program.

- The single most effective means of negating the adverse effects of the proposed funding reduction is to reduce the time it takes to plan, design and build the facilities. An achievable goal which would vastly improve the program's effectiveness with limited funds, is to halve the current project time span. This can be done through streamlining the program and eliminating those disincentives which are turning away the needed engineers, contractors and equipment suppliers.

- Along those same lines, we should be encouraging and rewarding better engineering which can lower construction costs and reduce the time involved from the start of the project to the start-up of the plant. The current emphasis on squeezing the less expensive front-end of a project - the engineering - has been counter-productive. Better engineering saves money.

- For this reason, I would oppose any suggestion, such as that implied in the Administration's proposal, to reduce federal funding of Steps I and II to say 50 percent. I do support giving Governors the option to reduce the existing 75 percent federal share, but I cannot support reducing the federal funding of Steps I and Steps II as a cost-effective action. Maintaining the 75 percent share will ensure that needed water pollution control projects are not sacrificed in the arena of competing local programs.

- Additional efficiencies can be gained by combining Steps I and II in order to move projects ahead at the faster pace consistent with good management and technical practices.

Mr. Chairman and members of the Committee, I would like to thank you for this opportunity to present my views here today. The position and recommendations I have put forth have of necessity given existing time constraints been somewhat broad in nature.

I would welcome the opportunity to discuss them or any other issue concerning this important program with you in more detail. I believe we have an excellent opportunity to improve our water pollution control efforts, and as key participants, the professional staff of my organization looks ahead to the challenge of doing so. Thank you.

FIGURE III.1 SUMMARY OF LAWS, ORDERS, AND REGULATIONS EFFECTING CONSTRUCTION GRANTS PROGRAM

Subject/Law	Summary of Requirements	Lead Agency
Archeological and Historic Preservation		
• Archeological and Historic Preservation Act	When construction is harmful to historic property undertake preservation of property.	Interior
• National Historic Preservation Act of 1966	Determine and consider the impact of construction on historic properties.	Advisory Council on Historic Preservation
• Executive Order 11593 (Protection of Cultural Environment)	Provide leadership and strive to preserve and protect cultural environment; locate and inventory properties.	Interior
Environmentally Sensitive Areas		
• Executive Order 11988 (Floodplain Management)	Reduce the flood hazard associated with federally-assisted projects.	Each Agency
• Executive Order 11990 (Wetland Protection)	Minimize harm to wetlands as a result of federally-assisted projects.	Each Agency
• Wild and Scenic Rivers Act	Agency must consult with lead agency when construction has "direct and adverse" impact on wild or scenic river.	Agriculture or Interior
• Coastal Zone Management Act	Agency actions effecting coastal area must comply with state Coastal Zone Management plan.	Commerce
National Environmental Policy Act of 1969	Actions having significant impact on environment must be accompanied by EIS detailing impact and alternatives.	EPA

FIGURE III.1, CONTINUED

Subject/Law	Summary of Requirements	Lead Agency
Local Financing		
• Uniform Relocation Assistance and Real Property Acquisition Policies Act	Reasonable compensation must be paid for any project resulting in relocation of people or acquisition of real property.	Each Agency
• Intergovernmental Cooperation Act of 1968	Local/state/federal cooperation and coordination as to development of assistance policies.	Each Agency
• Housing and Urban Development funding	Certain treatment facilities may be funded under the Community Development Block Grant program.	HUD
• Farmers Home Administration funding	Rural treatment projects may receive guaranteed loans from FmHA.	Agriculture
• Economic Development Administration funding	Projects in economically depressed areas may be partially funded by EDA.	Commerce
Nondiscrimination Requirements		
• Civil Rights Act of 1964	No person shall be discriminated against on the grounds of race, color, national origin in any project receiving federal assistance.	Justice
• Age Discrimination Act of 1975	No unreasonable discrimination on account of age in any federally-assisted project.	HHS
• Executive Order 11914 (Handicapped Nondiscrimination)	No discrimination against handicapped individuals in any federally-assisted project.	HHS
• Executive Order 11625 (Minority Business Enterprise)	Use of MBEs shall be encouraged in all federally-assisted projects.	Each Agency
• Executive Order 12138 (Women Business Enterprise)	Use of WBEs shall be encouraged in all federally-assisted projects.	Each Agency

FIGURE III.1, CONTINUED

Subject/Law	Summary of Requirements	Lead Agency
Wildlife Conservation		
• Fish and Wildlife Coordination Act	Federal agencies shall coordinate with Fish & Wildlife Service on any impacts to fish or wildlife.	Interior
• Endangered Species Act	Coordination and mitigation plans required for any effects on endangered or threatened species or their critical habitat.	Commerce or Agriculture
Contract Requirements		
• Davis-Bacon Act	Minimum wages for each class of laborer (based on the community norm) shall be paid for a federally-assisted construction project.	Labor
• Contract Work Hours and Safety Standards Act	Time and one-half must be paid for any work over 8 hours per day or 40 hours per week for federally-assisted projects.	Each Agency
• Copeland Act	Prohibits kick-backs in federally-assisted projects.	Each Agency
Other EPA Laws		
• Resource Conservation and Recovery Act	Prohibits disposal of hazardous material (e.g. sludge) without a permit.	EPA
• Clean Air Act	Sources must meet requirements prohibiting deterioration in air quality; allows for cut-off of construction grants funds if certain air quality standards are not met.	EPA
• Clean Water Act (non-CGP)	Section 402 permitting for discharges of pollution.	EPA

Other Requirements

Age Discrimination Act of 1975

Soil and Water Resources Conservation Act of 1977

Toxic Substances Control Act (1976)

Rehabilitation Act of 1973

Historic Sites, Building and Antiquities Act of 1935

Marine Protection Research and Sancturaries Act of 1972

Rivers and harbors Act of 1899

Solid Waste disposal Act (1973)

Water Resources Planning Act (1965)

Federal Power Act (1935)

Intergovernmental Cooperation Act of 1968

Antiquities Act of 1906

Federal insecticide Fungicide and Rodenticide Act (1973)

Marine Mamal Protection Act of 1972

Noise Control Act of 1972

Bridge Act of 1906

General Bridge Act 1946

Contract Work Hours and Safety Standards Act (1969)

Coepland (Anti-Kickback) Act (1969)

Hatch Act (1967)

Appalachian Regional Developemnt Act (1969)

Consolidated Farm Rural Development Act (1973)

Demonstration Cities and Metropolitan Development Act

Intergovermmental Cooperation Act of 1966

Housing and Urban Development Act of 1970

Public Works and Economic Development Act of 1965

Local Public Works Employment Act of 1976

Executive order No. 11593, "Protection of the Cultural Environment"

Executive Order No. 11738, "Utilization of Facilities on EPA List of Violating Facilities"

Executive Order No. 11914, "Non-discrimination with respect to the Handicapped in Federally Assisted Programs"

Executive Order No. 12114, "Environmental Effects Abroad of Major Federal Actions"

Presidential Memorandum on Environmental Quality and Water Resources Management, July 12, 1978

PROJECT A

	APPL.	START	COMPLETE	TIME ELAPSED	ESTIMATE CONSTR COST	ENGRS. FEE	ENGRS. COST	PROJECT P&L
					DOLLARS ($000)			
STEP I	-	2/74	4/77	3 Yrs. 2 Mos.	$10,000	$100	$110	(10)
		DELAY		5 Months				
STEP II	1/77	9/77	1/79	1 Yr. 4 Mos.	15,800	900	935	(35)
		DELAY		9 Months				
STEP III	4/79	10/79	3/80	5 Months	16,800 1)	---	---	
(SELECTION OF CONTRACTOR)				6 Yrs. 1 Month		1,000	1,045	(45)

Increase in Construction Cost - $6,800K

% Increase - 68%

Cut Period in Half (3 years)

Estimated Savings in Construction Cost - $3,400K

STATEMENT OF HARRY EARLY, GOVERNOR, PUEBLO OF LAGUNA

Mr. Chairman and Members of the Committee, my name is Harry Early, and I am Governor of the Pueblo of Laguna.

I wish to express my gratitude for this opportunity to appear before you to discuss the budget for Indian housing programs in Fiscal Year 1982. Because the Reagan administration has proposed the complete elimination of all Indian housing program funds for FY 1982, these hearings concern not merely the annual budget, but the future of the entire program. In a few moments I will discuss at some length the direction I believe the Indian housing program should take in the 1980's. But first let me present for you a brief sketch of the status of Indian housing as of today.

Federally funded Indian housing is of great importance to many Indian tribes, including the Pueblo of Laguna. The Bureau of Indian Affairs has identified some 59,600 substandard units currently occupied in Indian country. Census Bureau statistics indicate that 49 percent of all Indians live in substandard housing -- that is, housing which lacks indoor plumbing or is seriously deterioriated structurally. These figures are in fact gross underestimates of the need for better housing on the reservation because they do not include those Indian families who live near a reservation and who likely would return to the reservation if decent housing were available.

All of us readily can appreciate that adequate housing is a basic necessity of life for a family. But what we also must understand is that adequate housing is an even more critical necessity for the life of the Indian reservation. The future of Indian tribes rests with the growing number of college-educated young people who wish to return to reservations to help their people. We cannot realistically expect these young people to return to -- or, more importantly, to remain on -- the reservation if adequate living conditions are not available. Without the Indian housing program, the prognosis for the Indian reservation is very bleak.

The proposed elimination of the Indian housing program is based on a widely recognized need to curtail federal spending. Quite clearly, the federal budget can be brought under control only if everyone is willing to make some sacrifices, but the sacrifices should be shared equally. Indian programs have been slated to absorb 3 percent of the national budget cut, while accounting for only .4 percent of the total federal budget. Overall, the proposed budget cuts would eliminate 34 percent of Indian program funding. Indians are willing to pay their fair share of the price for balancing the budget, but the imposition of such a severe and disproportionate burden on the American Indian is neither fair nor justified.

The Indian housing program in particular has been targeted for extinction because some 22,000 units currently are backlogged in an administrative preconstruction pipeline. The great majority of these units, however, -- some 16,000 of the units -- were reserved less than sixteen months ago and realistically could not be expected to be under construction as of this time. In fact, the Indian housing program fares well when compared with the low income housing program. For example, 67 percent of all Indian housing program units reserved more than 16 months ago have reached the start of construction, while only 49% of all low income housing units reserved during the same period have commenced construction. Eliminating the more efficient program is hardly an effective approach to balancing the federal budget.

In any event, the "pipeline" argument is largely a red herring. Housing construction by its nature always requires substantial lead time before production. At any given moment, an active housing program will always have a significant number of units at all stages of development, including the administrative process.

Furthermore, housing programs are not initiated or terminated by the simple opening or closing of a valve. Without a steady and uninterrupted flow of housing funds, the pipeline and thus the program *will evaporate. The funding hiatus proposed by the Reagan* administration is not the mere elimination of a surplus, after which a moderated flow of funds can be reestablished easily. Rather, the termination of funds -- even for a year -- is a wholesale dismantling of the program which will necessitate months or years to rebuild.

The Indian housing program has been justifiably criticized over the years for a number of deficiencies centered largely on mismanagement and inefficiency. Much of this criticism would find ready acceptance on Indian reservations. Yet, none of this criticism assumes, even for a moment, that the crying need for shelter which prompted the creation of the Indian housing program has been satisfied. The criticisms do suggest that better approaches to the problem should be tried. I would like to spend the balance of my time discussing the ways in which a creative restructuring of the Indian housing program could solve or ameliorate many of the legitimate criticisms of the program, while continuing to serve a very real need.

One approach can be dismissed out of hand. The commonly assumed alternative to existing federal economic programs is a resort to the free market. Those who understand the conditions on an Indian reservation will readily understand that laissez-faire economics alone will never produce adequate housing on the reservation. Most Indian reservations have had a cash economy for less than a century. Indians on a reservation have minimal or no capital to invest and traditionally have great difficulty securing credit. Indian families generally have very little disposable income with which to attract private enterprise. The reservations also lack transportation and other facilities necessary to attract outside investment. Indian reservations realistically cannot be expected in the next few years to develop or attract a private sector capable of constructing millions of dollars worth of housing.

We must assume that housing on Indian reservations can be built only with a significant degree of federal involvement. Yet, we can and should restructure the nature of federal involvement in a direction which simplifies the administration of the Indian housing program, eliminates unnecessary regulation, and responds to the diverse needs of different tribes.

I propose that the federal government provide housing construction and financing assistance to tribes under the Indian Community Development Block Grant ("CDBG") program. Housing construction and financing currently are available under the CDBG program under certain circumstances, viz, as part of an economic development project or as "last resort housing" under the Uniform Relocation Act. In those isolated cases where CDBG funds were used to build housing, the cost of design, construction and administration has been about half that of existing programs. While these few examples are insufficient on which to base a generalization, the flexibility and relative simplicity of the CDBG program apparently may contribute to dramatic cost reductions, compared with the existing program.

The provision of housing construction and financing assistance should be designated for eligibility for CDBG grants from the Secretary's Discretionary Fund. This limited statutory amendment and a few technical, conforming amendments would be the only legislative actions required to implement my proposal. Thus, this approach avoids the need for the enactment of any sweeping legislation.

Further, this CDBG approach would not require the creation of a new administrative structure. The simple and efficient administrative vehicle which already exists easily could be adapted to accommodate this more broadly available funding.

Housing assistance should be provided in the same manner as other CDBG programs. Tribes would apply for housing assistance along with funds for other CDBG-eligible activities and receive funds under the same contract. Although tribes would be legally and administratively responsible for the successful completion of the housing, they should be permitted to contract with other agencies, such as the Indian Housing Authority or the tribal realty office, for the construction and management of the housing.

Funds from the CDBG housing program would be used to provide the following kinds of housing assistance:

-- 100% housing construction grants to very low-income tribal members, although such families would still have to pay an administrative fee

-- loans and loan guarantees to finance construction or acquisition of housing for moderate and upper-income tribal members

-- needed interest or other subsidies for eligible tribal members as determined by the tribe

-- investment in publicly secured bonds, notes, etc., the yield and principal of which would be used to provide eligible housing assistance

-- establishment of revolving funds for families' housing payments and disbursement of such funds for eligible housing activities

-- acquisition or rehabilitation for rental or resale of privately owned residential structures

-- acquisition, construction or rehabilitation of tribally-owned residential structures for rental or resale

-- use of funds as guarantees for tribally-sponsored, privately-financed housing loans, notes, bonds, etc.

-- payment of wages, etc., for tribal force account work crews involved in building or rehabilitating housing of residential residents

-- provision of on-site and off-site water, sewer, utility and access costs associated with the construction of housing

-- direct and indirect costs for planning, design, inspection and administrative costs associated with housing construction or rehabilitation

-- costs associated with establishment of tribal wage rates.

Tribes would be required to establish minimum property standards that would not exceed existing minimum property standards, but which would require units built according to acceptable construction performance standards, location near a potable water supply, adequate sanitary sewage treatment, energy efficiency, interior wiring even where power is not currently available, and construction on soil which will accept the weight and effluent of the unit.

The Community Development Block Grant obviously assumes greater autonomy for tribes to determine the best ways to serve the needs on each reservation, and less involvement by the federal government in detailed decision making. Yet, the tribes would be subject to regulation. Distribution of funds among categories of need would have to be equitable and in accordance with a tribal strategy which takes into consideration all categories of need. Frequent inspections by a qualified independent inspector of all construction and rehabilitation would be required. Housing payments would be related to income and construction or rehabilitation cost. Excessive construction costs would be subject either to recapture or deduction from subsequent grants. HUD would set a total average per unit construction cost within which tribes would operation. The choice of nonstructural amenities, however, would be left to the tribes or the individual families rather than being regulated from Washington. Finally, tribes would be required to establish housing agencies with sufficient management capabilities to ensure the timely completion and occupancy of HUD-assisted units.

The essence of this proposal is to recast the role of the federal government in the Indian housing program. A large portion of the management decisions now split among three agencies -- the BIA, HUD and IHS -- would be transferred to the individual tribes, eliminating much unnecessary complexity in the administration of Indian housing. Furthermore, the overly restrictive minimum property standards and other federal regulations, many of which are inappropriate to the Indian reservation or dictate housing amenities which are inconsistent with Indian culture, would be eliminated or subject to waiver in appropriate cases. Yet, the federal government would retain a role in assuring the quality of housing construction. The proposed program thus provides greater flexibility to meet local needs, eliminates much unnecessary administrative complexity and regulation, and carefully targets federal involvement to those areas where it is most needed.

The proposal I have laid before you obviously is a substantial restructuring of the Indian housing program. Unfortunately, limited time prevents me from presenting more details concerning the administration or benefits of my proposal. Needless to say, I stand ready at all times to consult further with this Subcommittee or other appropriate federal agencies in order to build an Indian housing program which will serve the needs of the tribes while eliminating many of the problems which have subjected the program to justifiable criticism.

Let me assure you, as one who knows about Indian housing first hand, that the housing conditions on many reservations are deplorable. If these conditions are to be improved, we must have continued federal involvement for many years to come. Many of the calls for reform of the Indian housing program are legitimate, but we should respond to them critically, constructively, and creatively. I urge this Subcommittee to reject the Reagan administration's call for the wholesale elimination of Indian housing programs and to appropriate the funds necessary to finance the proposal I have outlined for you today.

Thank you very much.

STATEMENT OF K. RAY HARRINGTON, PRESIDENT, ASSOCIATION OF METROPOLITAN SEWERAGE AGENCIES

Mr. Chairman and members of the committee, I am K. Ray Harrington, Director, Nashville, Department of Water and Sewerage Services. I am submitting this statement on behalf of the member agencies of AMSA, the Association of Metropolitan Sewerage Agencies.

It is clear that the Congress is on the verge of approving massive cutbacks in funding for the wastewater treatment construction grants program, with no provision for the consequences to municipalities which continue to face the mandates for expensive construction to meet the requirements of the Clean Water Act. This includes communities which are under court order or consent agreement, those who now have or are being threatened with administrative orders, and those who have agreed to enforceable permit conditions in the expectation of Federal assistance to enable them to meet those requirements.

For this reason, AMSA is urging this committee to include in its appropriations for fiscal year 1982 language which would prohibit the Environmental Protection Agency from carrying out enforcement activities against any community which has been denied the Federal construction grant funds needed to accomplish construction of mandated wastewater treatment facilities. Suggested legislative language is attached to this statement.

Further I would point out to the committee that the reforms to the program proposed by the Administration would, in their estimation, justify a funding request of $2.4 billion for FY 1982. The current law would justify far more. A zero appropriation request such as proposed by the Administration responds to neither the present law nor its proposed replacement. It is merely a tactic presumably meant to threaten the Congress into reform. But this is a potential bombshell which will not damage the Congress but which could create financial choas in city halls and residential sewer bills across the nation.

AMSA does not oppose in principle a reduction in funding for the construction grants program. We have long held that there is little value in funding projects which go beyond the actual treatment required to meet acceptable levels of water quality in receiving streams. But AMSA would only accept a reduction in the funding for the 201 program, if the reduction dealt with the realities facing local communities.

One reality is that without a change in the manner in which funds are now distributed and the variable priority-setting within different states, the funds remaining after a general reduction will not be distributed to permit major agencies to meet the requirements facing them.

A second reality is that there are federally imposed requirements which drive costs for facilities to levels which have exasperated this committee in the past, and those requirements remain in force.

Since 1972, AMSA has advised the Congress that requirements of the Federal Water Pollution Control Act exceeded the actual levels of treatment necessary to achieve acceptable water quality. We are well aware that these requirements are the result of actions by the authorizing, not the appropriating committees, but it would be unfair to those at the local level who face enforcement action for this committee to ignore that these mandates are still in force.

When confronted with the intention to incorporate these rigorous requirements into the law, AMSA said at the time that it could not be done without Federal assistance, and such assistance was provided in the 1972 Act and the 1977 amendments.

Now, withdrawing Federal assistance leaves this burden to the local communities who for ten years have been telling Congress they have been asking for too much.

You will recall that AMSA members are the agencies providing wastewater treatment for over 70 million citizens in 85 of the nation's major metropolitan areas. They are the ones who apply for and receive construction grants under Section 201. They are the agencies which are actually responsible for achieving the goals of the Act. The success of this program depends not on Federal or state level bureaucracies but on whether they, at the local level, are able within the resources available to effectively control water pollution stream-by-stream and plant by plant.

In the past few weeks, AMSA members were polled on the potential impacts of the proposed rescissions on their funding needs. From our membership alone, we identified needs of $165 million in FY 1980 appropriations yet to be obligated, $1.36 billion in FY 1981 funds which would be sought for pending projects, and $2.91 billion in FY 1982 funds. About one-third of our member agencies reported they face court orders, consent agreements, administrative orders or other mandated schedules to meet permit conditions. Others risk enforcement action if they fall behind in projects which are now on schedule.

The total needs identified, more than $4.3 billion between now and the end of FY 1982, exceed the amount which would be left available under the Administration's proposal, and these are the needs of only our membership. These figures do not reflect the needs of even the remainder of the 106 SMSAs which EPA estimates will require at least $50 million each in funds for treatment facilities alone.

Even if the remaining funds were sufficient, they would be distributed through a formula which has no relation to when and where projects come ready for construction. The formula ensures that the needs for construction funding will not be met. They will instead be distributed to areas which may not be facing court orders, where they will be spent nevertheless on projects which return far less water quality improvement dollar for dollar.

If the Administration fulfills its promise and seeks an eventual $2.4 billion for FY 1982, this could serve only to exacerbate the problem.

The effect of Federal cutbacks is not the saving of dollars, but the transfer of Federally mandated costs from the Federal to the local level, where hard-pressed city administrations and local service area populations must shoulder the financial burdens.

AMSA members, whose agencies are the actual grant applicants and who implement this program, have told the Congress they could meet the goals of the Act, with Federal support. We have also pointed to treatment requirements which exceed necessity, and strongly advised that they were escalating the cost of the program, but we have been constant in our support of the goals of the Act.

We feel that to withdraw funding support without acting first on the requirements would constitute a breach of faith. Precipitate reductions will throw the burden of funding the full range of program requirements on local governments, which have been able to accomplish the requirements only with Federal assistance.

Local administrators, focussed on job program cuts and other more immediate impacts, have not had time to realize the burden that is about to fall upon them. The reports from fifty-seven cities do not reflect either the needs of the rest of the 106 SMSA's requiring over $50 million each in treatment construction costs alone, nor the many smaller communities who generally lag behind the major city programs.

AMSA is not opposed to the Administration's stated intention to redirect the Clean Water program toward concentrating on major problem areas where there are real water quality improvements to be gained. We have urged this in the past, and have drafted a plan to do just that in major metropolitan areas.

We have yet to see a proposal for an ex post facto rescission of court orders and consent decrees, deadlines, and permit requirements, nor a method for suddenly revising plans which have taken years to develop through local consensus and complex technical judgements.

AMSA believes that before the Congress endorses the Administration budget cuts, it address the problems of existing local mandates, the costs which will be transferred to local budget, and the projected costs of accomplishing even the most minimal future program. These are questions which will set the stage for forthcoming work on revision of the Clean Water Act, and which left unconsidered will be determined in advance by precipitate action on the budget.

Even with the availability of all appropriated funds for the 1980 and 1981 fiscal years and an appropriation for fiscal year 1982, AMSA member agencies will not be able to accumulate the funds they need without a suspension of the allocation formula. But any disruption in funding will only mean greater losses to inflation than will be saved through any reduction in major metropolitan treatment projects. Therefore, we ask that this subcommittee support the funding for the 1982 fiscal year at $2.4 billion. This sum is certainly justified to meet the needs of the current law, and the administration says that its eventual substitute would also justify a similar amount. To eliminate all funding, while keeping the present law in effect is clearly the least desirable course.

Both AMSA and EPA see a peak in funding needs over the next two to three year period. Speaking for major metropolitan agencies, I can say that delay in meeting these needs will only cause further losses to inflation, or force states and local governments to pull back on their present commitments to achieving the mandated cleanup. I urge this committee to keep this program moving forward.

STATEMENT OF AMERICAN CONSULTING ENGINEERS COUNCIL

The American Consulting Engineers Council is an organization of approximately 3700 private engineering firms engaged in a wide range of disciplines to provide professional engineering services to private clients, local governments, states and federal agencies. ACEC member firms provide engineering services directly to many of the agencies under the jurisdiction of this subcommittee, as well as to grantees under assistance programs of those agencies. Such engineering services range from the planning and design of Veterans' Administration hospitals, performance of flood prevention studies and fire safety building evaluations for the Federal Emergency Management Administration, the planning and design of community facilities under HUD Community Development Block Grants, and the planning, design and construction management of wastewater treatment systems under the EPA Construction Grants Program.

For many years, ACEC, and its member firms, have been concerned about the waste and efficiency, overlapping regulations and resulting delays which occur in virtually all direct federal procurment and federal grant assistance programs. This is true particularly of many programs under the jurisdiction of the HUD & Independent Agencies Appropriations Subcommittee.

ACEC therefore has enthusiastically supported the efforts of President Reagan and his Administration to reduce waste and inefficiency in federal programs, to cut to more realistic levels federal expenditures as a means of curbing national inflation and to deregulate federal requirements on state and local governments, particularly in the Administration of federal assistance programs to state and local governments to meet federal mandates and requirements.

In this context, we would like to offer the following comments on the fiscal year 1982 appropriation request by the Administration as it pertains to the programs under the jurisdiction of the HUD & Independent Agencies Subcommittee.

At its annual meeting in Las Vegas, Neveda, on May 6, 1981, the American Consulting Engineers Council unanimously passed a resolution supporting the Administration's Economic Recovery

Plan including federal spending reductions, personal and corporate tax relief, grant and regulatory reform and increased reliance on private enterprise. The resolution also supports Congressional and Adminsitration efforts to foster further economy, efficiency, and integrity in the federal government and offers to actively assist the Administration and Congress in achieving these objectives over the coming months. As such, the American Consulting Engineers Council supports the budget requests submitted by the Administration and urges the Subcommittee on HUD & Independent Agencies to approve the funding levels for Fiscal Year 1982 as requested by the Administration.

More particularly, ACEC would like to comment on the Appropriation request for the Environmental Protection Agency for Fiscal Year 1982 as it relates to the Construction Grants Wastewater Treatment Programs. ACEC supports the Administration's intention to fund this program at a reduced level of $2.4 billion for the next five years beginning in FY'82. ACEC also supports the efforts of the Administration to reform the Construction Grants Program by amendment of the Clean Water Act this year.

It is over the issue of the amendment of the Clean Water Act, however, that ACEC point of view differs somewhat from the Administration's.

It has been ACEC's consistent position, since 1977 Amendments to the Clean Water Act were first introduced, that what was necessary to achieve the objectives of the Act, i.e. to clean up the nation's waters and do so with a minimum of red-tape and paperwork, was to simplify the Act. The 1977 Amendments and the regulations developed by EPA to implement those Amendments made the Act far more complicated. The result has been to stretch out the process of planning, design and construction of municipal wastewater treatment plants to their current average of eight to ten years. The increased complexity also produced an increase in federal, as well as state and local, cost to achieve the same objectives.

The basic philosophy stated by President Reagan of defederalizing grant assistance programs, deregulating such programs and cutting federal expenditures are all objectives which ACEC can wholeheartedly support. However, the proposed "reforms" which have been imposed as a condition for the $2.4 billion appropriation in FY'82 for the Construction Grants Program are inconsistent with those general objectives in that they do not go far enough. The "reform" merely cuts federal eligibility and gives the states less flexibility to carry out the requirements mandated in the Act with fewer resources. As such they are inconsistent with the overall intention of the Administration's basic objectives. Rather than deregulating, they, in fact, increase federal requirements by restricting federal funds to specific water pollution control activities, treatment plants and the interceptors associated with them.

In 1980, ACEC at its semi-annual meeting in Indianapolis, Indiana, passed a resolution urging the reauthorization of the Clean Water Act and suggesting that Congress and the Administration take a serious look at alternative means of federal assistance, such as block grants or loans, revision of the definition of secondary treatment to provide more flexibility to respond to local water quality conditions and increased stability and predictability in the program. This would permit states and localities to more consistently plan wastewater treatment priorities and thereby reduce the completion times of local treatment systems. Fundamental to this resolution was the concept that funding for the Construction Grants Program must continue on a stable and consistent basis no matter what the level.

ACEC believes the Administration's "reform" package to cut federal expenditures for the Construction Grants Program misplaces the reductions and as a result distorts the ability of states and local governments to flexibly respond to wastewater treatment conditions. In a further resolution, passed by the ACEC Executive Committee, in May, 1981, ACEC urged that the Congress consider elimination of Step I, Planning, and Step II, Design, from federal eligibility, reduce the federal share over a period of three years to fifty percent, and make a fundamental change in the allotment formula by awarding block grants to the states. The states could then determine the priority in water quality results of the projects to be funded based on the most reasonable technology.

ACEC believes that these reforms when carefully examined will achieve the objectives postulated by the Administration, i.e. defederalization, deregulation and reduction of federal expenditures, without imposing the additional requirements and the additional complexity inherent in reducing federal eligibility for specific kinds of wastewater treatment projects. The pollution control problems in all parts of the country are not the same. Eliminating federal eligibility for combined sewer overflows, collector sewers, multi-purpose projects, and other treatment alternatives eliminates the flexibility of states and localities to plan, design and respond to the pollution problems most specific to their own local situation. However, the states must be accountable for producing specific precommitted treatment results consistent with their five-year priority plan as a condition for receiving such block grants.

ACEC therefore urges the Subcommittee on HUD & Independent Agencies Appropriations to appropriate $2.4 billion for FY'82 consistent with the President's budget request and to indicate that such appropriation is contingent on the passage of appropriate remedial legislation, not necessarily limited to the reforms requested by the Administration.

ACEC appreciates the opportunity to submit this statement and offers its assistance to the Subcommittee on HUD & Independent Agencies Appropriations in developing future policy relating to the funding of EPA and the other agencies within its jurisdiction.

STATEMENT BY JEROME B. GILBERT, PRESIDENT, AMERICAN WATER WORKS ASSOCIATION, AND AWWA RESEARCH FOUNDATION

The American Water Works Association (AWWA) and the AWWA Research Foundation are separate but allied non-profit organizations dedicated to the promotion of public health, safety and welfare through improvement in the quantity and quality of drinking water delivered to the public. In behalf of the Association's 34,000 members and the Foundation's participating utilities and individuals, we are pleased to submit this statement concerning the federal funding of drinking water research programs.

Since the passage of the Safe Drinking Water Act (PL#93-523) in 1974, there have been a number of developments concerning drinking water that have serious implications for both water suppliers and consumers. In addition to the promulgation of new regulations, there have been scientific discoveries and hypotheses concerning possible links between drinking water and public health. Ground water contamination seems to be increasing; pollution of surface water supplies continues; concerns have been raised about direct and indirect additives to drinking water and about the corrosion of many of our older distribution systems. New treatment processes need to be installed, some need to be invented. Monitoring procedures and analytical methods are costly and need improvement. Energy costs, new equipment and construction, and rising inflation increase the pressure to raise water rates. Drought and other water shortages are serious matters in many parts of the country and research could help us reduce their costly effects. In all of these matters and more, research is essential to keep both the cost and quality of drinking water within acceptable limits.

Therefore the American Water Works Association and the AWWA Research Foundation urge the Subcommittee to support an increase in the drinking water research budget of the Environmental Protection Agency. It is, we believe, beyond question that the dollars spent on research and development are a prudent investment that will lead to lower costs and greater savings in the future, while helping to ensure safe drinking water.

The two issues at stake are public health and spiralling costs. Research can lead to a reduction in public health risks and to more cost-effective treatment methods. Both goals are legitimate and necessary objectives for public investment and support.

Concerning the public health aspects of drinking water research, we would encourage a program of scrupulous thoroughness. If there are constituents in drinking water that are genuine threats to human health, we want to know about them and to work toward their elimination. However, this area of toxicological and epidemiological investigation is very difficult, taking us beyond the present frontiers of science. Our methods of detecting and establishing the toxicity, carcinogenicity, mutagenicity, and teratogenicity of trace elements in drinking water are still relatively primitive. Epidemiological studies are as lengthy and costly as they are difficult and inconclusive. Risk extrapolation models based on animal testing continue to be an insecure basis for setting standards and public policy. Projections of the economic impact of regulations are, more often than not, easier to disprove than prove. Thus we would plead for more and better research, for more stringent protocols and review procedures -- all of which cost money and take time. For EPA to achieve acceptance and understanding of a continuing thrust toward more regulation of drinking water, it will have to conduct research that can stand the scrutiny of disinterested scientific review. As industry representatives, we are not opposed to drinking water standards; however, we are strongly opposed to government regulations based on inadequate research and faulty studies.

Given valid research on contaminants, the logical next step is research into the means to control them. Industry needs practical, efficient, cost-effective technologies and to develop those requires full-scale research and demonstration. Laboratory bench tests bear only the slimmest relationship to the realities of plant operations; they are certainly no basis for imposing a particular technology. When it comes to the design and testing of water treatment processes, the industry is better equipped and experienced than federally funded laboratories. Thus we would encourage the Congress to direct EPA to work with industry in finding solutions to water quality problems.

The AWWA Research Foundation is seeking funds for this purpose and stands ready to work with EPA and others on a nationally coordinated research and development program. Utilities are willing and able to participate in such an effort. In fact, the Foundation was organized by water utilities precisely to serve as the industry's focal point for drinking water research. With a comparatively small amount of federal "seed money" the Foundation could involve utilities in projects that would double the impact of those dollars and generate data that addresses the practical needs of communities throughout the country. Two million dollars of federal funding would provide a reasonable, minimum base for such an effort. This would also provide the necessary funds to research critical problems that are non-regulatory in nature (i.e., no federal interest or mandate) such as energy conservation in water utilities, water conservation, social rate structures, drought management, etc.

The important point is that the new array of challenges confronting the nation's water suppliers can only be solved by a well-designed research effort. The industry itself is in the best position to develop workable solutions that will keep water rates low and ensure safe, high quality water. This is why the Association and the Foundation have joined to encourage the Congress to provide the funding required for a respectable program of drinking water research. We are firmly convinced that a relatively modest investment now will save the nation's taxpayers untold millions in other costs later. The "seed funding" suggested would lead to a true partnership among the federal government, the states and the industry as envisioned in the Safe Drinking Water Act and as successfully practiced by many European countries. We thank the Subcommittee for its consideration and stand ready to provide any further information that may be desired.

STATEMENT OF RONALD P. ANDRADE, EXECUTIVE DIRECTOR, NATIONAL CONGRESS OF AMERICAN INDIANS

My name is Ronald P. Andrade. I am the Executive Director of the National Congress of American Indians (NCAI), the largest national Indian organization in the country with a membership of approximately 200 tribes whose combined enrolled population is approximately 400,000 people. With me today is Ms. Robin Shield of my staff. On behalf of the officers and member tribes of NCAI, I want to thank you for giving us this opportunity to present testimony here today.

The Indian tribes of this country enjoy a unique relationship directly with the United States Government that is resultant from treaties, Executive Orders and Acts of Congress, and has been reaffirmed time and time again by the highest court of the land: the Supreme Court. It is a relationship peculiar to Indian people and sets us apart from all minority, ethnic and special interest groups in the country. Through the federal trust relationship tribes are also unique from individual states in that they (the tribes) receive all operational and developmental monies from the federal government. Indian nations have not enjoyed the independence provided by taxation or other local revenues, therefore, they are encumbered by a very delicate infrastructure which is largely dependent upon the United States Government.

Tribal governments are moving slowly, but surely toward the goal of strong, self-sufficient economies and governmental infrastructures. Last year, tribes were encouraged by the statement of then President-elect Reagan:

> "Economic self-sufficiency will be the goal of my Administration, both in Indian affairs and in the nation at large. It would work to make available financial, technological and management assistance which will enable tribal enterprises to develop their own project for self-sufficiency. This will result in the reduction of income dependency and an increase in productive employment -- which are the desires of Indian people."

However, sources of funds for tribes for economic and community development and planning assistance -- tools vital to tribes to promote self-sufficiency -- are being cut to the bone. For example, the Economic Development Administration (EDA), traditionally a prime source of funds for tribes for economic planning and development will no longer exist next year. What monies there are available from the Bureau of Indian Affairs (BIA) for economic development are being lumped together with the Bureau's housing monies, education monies and eight other unrelated programs into a single block grant program. Although tribes will set their own funding priorities for their communities, a desirable benefit of self-sufficiency, there is only $121 million projected for the block grant program next year. That money will not go very far with over 400 tribes and Alaska Native governments eligible to participate. In fact, that amount is less than what the HUD January budget had projected was needed to build 4,000 units of Indian housing in Fiscal Year 1982: $703 million.

With funding sources such as EDA and the Community Services Administration (CSA) becoming non-existent, tribes will be forced to depend more heavily upon the Department of Housing and Urban Development's Indian and Alaska Native Community Development Block Grant Program. This program is funded entirely out of the Secretary's Discretionary Fund. In FY 1980, according to HUD, there were 166 tribes funded out of 490 eligible applicants, although 277 had actually submitted pre-applications.

According to the HUD office of Community Planning and Development, there has been a slow, but steady rise in the number of tribes applying for CDBG funds since the program's establishment in 1977 when Sections 103(a)(1) and 107(a) of the Housing and Community Development Act of 1974 were amended by P.L. 95-128.

The program is currently funded at approximately $33.5 million. We would like to see this program continued by HUD next year at the current or an increased level of funding. If more tribes will be turning to the Indian and Alaska Native CDBG program next year and in future years, it is imperative that the program remain available as a viable and much-needed source of community development/economic development/planning assistance funds.

When the trust relationship between the federal government and the tribes was established many years ago, a commitment was made to Indian people that the needs for their well-being would be met. Decent housing is part of that need and HUD has the responsibility to provide Indian families with decent, safe and sanitary housing. In fact, HUD administers the primary housing program on Indian reservations today.

> "Congress, in the Housing Act of 1949 (42 U.S.C. §1401), as amended, established as a national goal that each American family have a decent, safe, and sanitary home, and authorized various subsidized Federal housing programs to help meet that need. In 1961, public housing programs administered by the Department of Housing and Urban Development (HUD) were made available to Indians living on reservations through Indian Housing Authorities (IHAs) which were formed to develop and operate both rental and homeownership public housing projects. HUD programs have since been the major source of new housing for Indians...In general, Indians living on reservations have had to rely heavily on Federal programs to meet their housing needs because of relatively low incomes, isolated locations, and the unique land ownership status."[1]

In any given reservation community, one housing project does at least four things: generates employment, increases the population, alters the environment and, above all else, raises people's hopes for decent homes for themselves and their families. With the Indian Housing Program being as far-reaching as it is, one can imagine how tremendously this single program impacts on tribes all across the country. Yet HUD, whose role in providing housing to Indian people is so large, has proposed to terminate the program in Fiscal Year 1982.

We understand that the Administration's position for a zero budget for Indian Housing is based upon three factors: cost, pipeline, and IHA administrative capability. We would like to address these factors.

1. COST: For Fiscal Year 1981, HUD estimated the average total development cost of Indian housing to be $73,000 per unit. Estimates for Fiscal Year 1982 were $79,000 per unit. HUD officials state the average total development cost for non-Indian housing was estimated at $58,000.

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[1] Report on Indian Housing, pp. 2 & 3, Select Committee on Indian Affairs, United States Senate, 1979.

We contend that the comparison between Indian housing and non-Indian housing is like comparing apples with oranges. First, it should be noted that non-Indian housing is totally rental housing consisting of many multi-unit, high-rise complexes, much on the order of the Cabrini-Green project in Chicago, Illinois and other urban areas, which create substantially more social cost than the original economic investment.

Indian housing is predominantly mutual-help homeownership, single-family detached housing with more recent property built on scattered sites. The economic cost may be slightly higher, but we contend that single family detached housing on scattered sites has a better chance of promoting economic upward mobility than does the urban prisons. (The Wall Street Journal of Tuesday, May 5, 1981, reported on the urban blight of the big ghetto project in Chicago and quoted a tenant who called the project a prison.)

Furthermore, it should be noted there is a difference between rental projects and homeownership projects in that rental projects receive an annual operating subsidy to cover the difference between the amount paid by a tenant (usually less than 25% of adjusted family income) and the fair market rents or operating cost of the project. On the other hand, mutual-help homeownership projects rarely receive operating subsidies. If one were to add together the development costs and operating subsidies over the life of a project, the scales of fairness would weigh in the favor of the homeownership program.

In regard to the cost of Indian housing, we too feel that the total development cost is approaching the unacceptable. However, we also feel that there are innovative ways of reducing total development cost. We contend that the dwelling construction and equipment cost of Indian housing is competitive with housing produced in non-reservation areas. It is the administrative and overhead costs that have run unabated. Architectural, engineering, legal, interest, HUD, housing authority cost, to name a few, range from $15,000 to $20,000 per unit at the present time.

We believe public housing resources, if properly administered, can stimulate a more competitive supply of high-quality, low-cost housing that could be produced in a more timely and responsive manner. Utilization of resources under the acquisition program could be one innovative way of addressing the high administrative and overhead cost. Cataloging standard house plans for use by IHAs could reduce or eliminate the fees commanded by architects for even simple modifications to existing plans. And the interest a number of tribes are showing in pre-fabricated or manufactured houses leads us to believe that they are looking for more cost-effective methods of home construction.

2. PIPELINE: The second argument presented by HUD for the zero budget recommendation for FY 1982 is the pipeline of Indian housing activity. We submit that this is as much the fault of HUD as it is of anyone else. We understand the average time required to process and develop a project is 36 months on a national average, with some regions (Seattle and Denver) averaging 25 months and another (San Francisco) 55 months. If you examine the flow chart of the Indian housing program which accompanies our testimony, you can quickly see that the most time-consuming process involves site planning, selection, approval and development, followed closely in time by the technical reviews of HUD.

Again, we submit that there are existing methods and innovative ways that could be explored to reduce process and development time requirements. For example, making annual contributions contracts (ACCs) separate from dwelling construction has merit. Site selection and approvals are time-consuming because of the number of offices, agencies and processes involved, yet coordination leadership is generally unclear and conducted by individuals with limited experience in site planning, selection, approval and development.

We are aware of a large project (150 units) which required 16 months between program reservation and Date of Full Availability (DOFA) and was completed under budget, utilizing a concept of project management with a guaranteed up set price and performance bond.

We are convinced that high quality, low-cost housing can be built in a timely and responsive manner.

3. HOUSING AUTHORITY MANAGEMENT: The subject of Indian Housing Authority management is, in our opinion, a red herring issue in order to develop the so-called "third strike, you're out" game.

It is true that Indian Housing Authorities have experienced a number of administrative problems. However, when one assesses the progress made by IHAs in their short history, we would have to conclude that substantial progress has been made. Yes, they still need support and technical assistance, but it should be noted that the provision of technical support from HUD has been very limited. Housing authorities have had to depend upon themselves or their peers at other reservations to learn what is considered a highly complex program.

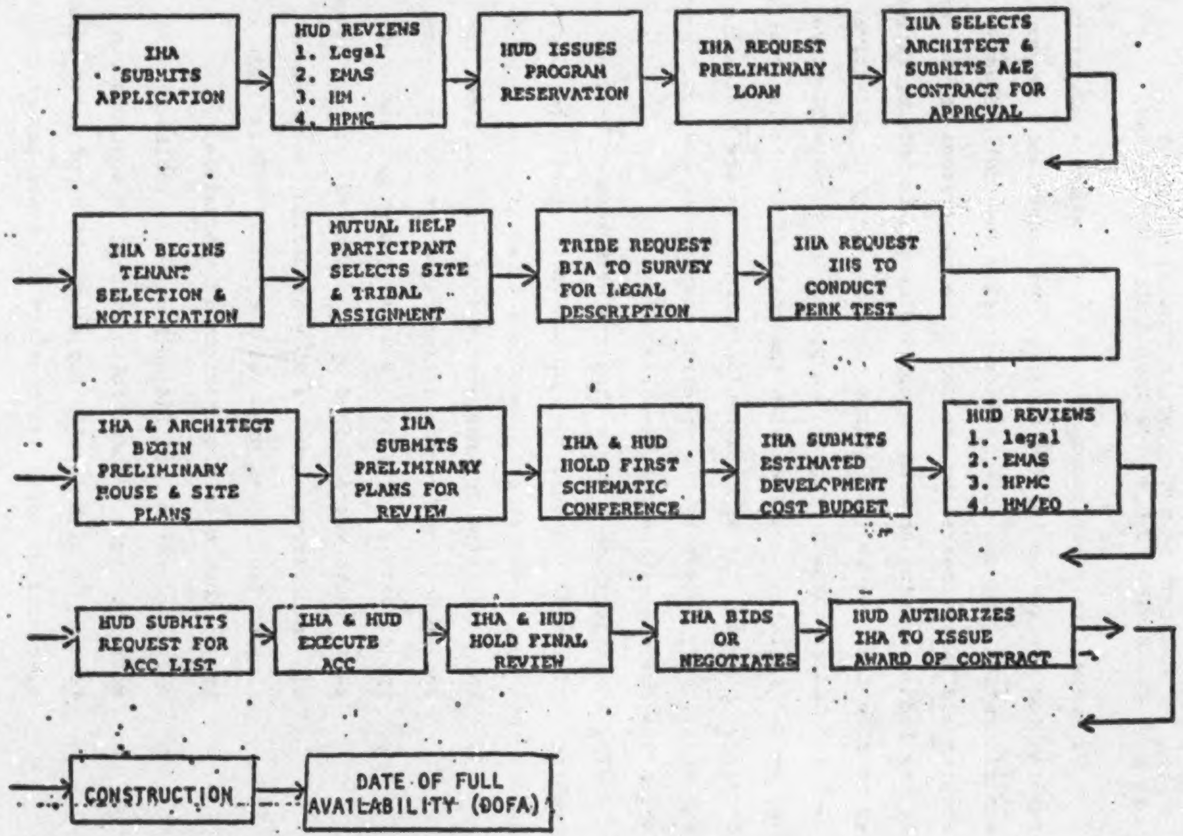
During May of last year, NCAI appeared before this subcommittee to request that the Indian Housing Program be funded in Fiscal Year 1981 at the level of 6,000 units (a level, we might add, which has not increased over the past three years at least nor has a higher level been requested during that same time by Indian people). In our testimony, we made the following statement concerning HUD's complaints about the costs of building Indian housing:

> "HUD's idea that cutting the number of units (from 6,000 to 4,000) will decrease the cost of housing is not logical in the sense that cutting units will not stop cost increases; the remaining units will still take money to build and maintain. If that is HUD's approach to cost containment, then it will continue to cut units until there is nothing left. In other words, the cheapest Indian housing is no Indian housing."

We did not realize at the time that our statement was, in fact, a prophecy.

In conclusion, we feel it is morally wrong and illogical to totally eliminate a budget for the Indian housing program. Although we appreciate very much the Administration's desire to reduce government spending as a means of curbing inflation and strengthening the Nation's economy, and to a certain extent support this effort, we had hoped that it would be accomplished with a sense of fairness and decency. We, therefore, recommend that the Indian Housing Program be funded at a level to support 4,000 units in Fiscal Year 1982. This represents a cut of one-third in the program -- a cut which we feel is equitable.

GENERAL APPLICATION PROCES: ..NVENTIONAL MUTUAL HELP ON TRIBAL LANDS


IHA SUBMITS APPLICATION
HUD REVIEWS 1. Legal 2. EMAS 3. HM 4. HPMC
HUD ISSUES PROGRAM RESERVATION
IHA REQUEST PRELIMINARY LOAN
IHA SELECTS ARCHITECT & SUBMITS A&E CONTRACT FOR APPROVAL
IHA BEGINS TENANT SELECTION & NOTIFICATION
MUTUAL HELP PARTICIPANT SELECTS SITE & TRIBAL ASSIGNMENT
TRIBE REQUEST BIA TO SURVEY FOR LEGAL DESCRIPTION
IHA REQUEST IHS TO CONDUCT PERK TEST
IHA & ARCHITECT BEGIN PRELIMINARY HOUSE & SITE PLANS
IHA SUBMITS PRELIMINARY PLANS FOR REVIEW
IHA & HUD HOLD FIRST SCHEMATIC CONFERENCE
IHA SUBMITS ESTIMATED DEVELOPMENT COST BUDGET
HUD REVIEWS 1. legal 2. EMAS 3. HPMC 4. HM/EO
HUD SUBMITS REQUEST FOR ACC LIST
IHA & HUD EXECUTE ACC
IHA & HUD HOLD FINAL REVIEW
IHA BIDS OR NEGOTIATES
HUD AUTHORIZES IHA TO ISSUE AWARD OF CONTRACT
CONSTRUCTION
DATE OF FULL AVAILABILITY (DOFA)

COMMENTS OF THE COLVILLE HOUSING AUTHORITY CONCERNING FUNDING FOR INDIAN HOUSING PROGRAMS

We appreciate this opportunity to submit comments concerning funding for the Indian Housing Program. We understand that the Administration proposes to eliminate totally the Indian Housing Program and has presented to the Committee comparisons of the cost of the Indian Housing Program to non-Indian public housing intended to show that the Indian Program has not been cost- effective.

The Indian Housing Program has proven to be cost-effective and we invite fair comparison with the costs of non-Indian public housing. However, the Administration's arguments are misleading and we strongly object to the specific comparisons and conclusions which the Administration has tendered.

The Administration asserts that the unit cost of Indian housing far exceeds the unit cost of non-Indian public housing. We ask that the Committee consider the following:

1. The Administration has stated that one home under the Indian Housing Program ultimately costs the taxpayers approximately $175,000. However, we understand that this figure was obtained by a statistical process involving amortization over a 25 year period, and that no similar figure was prepared for public housing generally, so that a fair comparison is impossible.
2. A fair comparison of Indian housing to public housing must not neglect that public housing is mostly urban housing in high-density projects. These projects have economies of scale and location which are impossible in Indian country.
3. A unit cost comparison with public housing is unfair unless the Committee recognizes that much public housing consists of one-bedroom elderly units, whereas Indian housing is predominantly for families, and a substantial portion of Indian housing units have from four to five bedrooms. (Approximately 75 percent of the homes constructed by the Colville Housing Authority have three bedrooms or more.) Obviously, the unit cost will be

necessarily greater for the Indian Housing Program, although the cost per occupant may not be.

4. We understand that the Administration supplied cost figures for public housing which did not include the amount of federal operating subsidies, whereas the figures for Indian housing included the amount of such federal outlays.
5. The Administration cost figures for Indian housing included Alaska Indian housing costs. The Alaska program is extremely unusual in its short construction season and in the stupendously high costs of labor and supplies. The inclusion of Alaska Indian housing costs in the Indian housing figures is unfair and misleading without consideration of these factors, because the proportion of Indian housing to public housing in Alaska is high due to the demography of that region.
6. The Administration has asserted that the Indian Housing Program is behind schedule on some 22,000 units. According to our information, the Administration actually has identified units within the normal pipeline process and labeled those as being behind schedule. The intended conclusion, that the Indian Housing Programs is not cost-beneficial, is obviously not warranted by this mischaracterization.
7. Finally, most Indian reservations are remote from contractors, skilled labor pools, and sources of supply. The Colville Indian Reservation is 120 miles from Spokane, Washington, from where contractors, subcontractors and supplies must be brought to carry out construction. The Colville Reservation encompasses more than one million acres of land in which there are four population centers (Nespelem, Inchelium, Keller and East Omak). Construction at Keller or Inchelium requires use of Nespelem as a distribution point from which supplies and workers must travel across mountain passes or by ferry across Lake Roosevelt.

The Administration has also eliminated the request for Indian Health Service sanitation facility monies for this year. Under current practice, IHS does not contribute to Indian housing projects until the houses are already under construction. As a result, IHS requests its funding for Indian housing projects anywhere from 18 months to three years later than HUD's requests for budget authority for the same housing. If the Administration's plans concerning IHS sanitation facility money are carried out, it would be impossible to construct some 13,000 units for which HUD already has budget authority for 1978 to the present. To the extent that this would affect work already under way, the proposed elimination is hardly cost-beneficial.

The continuing need for new federally funded housing on Indian reservations should be obvious and should not require documentation. However, we note that a 1980 survey concerning the Colville Indian Reservation projected a need of 1,000 additional units by 1985, based on projected increases in reservation employment and the clear trend of young, smaller families moving back to the reservation. Even if such a family could afford the enormous down payments and mortgage payments required in the private market, it would be hard pressed to obtain financing to build on Indian trust land, due to the near-impossibility of pledging trust land as collateral. The Colville Housing Authority's waiting list now has the names of some 230 applicants, and the list grows with each passing week. These families should not be denied the benefits of the nation's public housing programs.

Although the Adminstration has failed to demonstrate that the unit cost of Indian housing is greater than for public housing generally, many factors would justify any disparity in costs if indeed a disparity exists. Many costs are entirely beyond the control of the Indian housing authorities. In particular, there are pre-development costs which are unique to Indian housing. First, there certainly would be additional expense where a housing project is dependent upon the coordinated efforts of three separate federal agencies. Moreover, many Indian projects must be developed on allotted land, often on scattered sites, which must be leased to the housing authority. The checkerboard pattern of land tenure on Indian reservations, a confusing tangle of ownership and jurisdiction inflicted upon Indian people by the many radical shifts in federal Indian policy over a century, present problems of site selection, title examination, lease acquisition, utility easement acquisition and road access which have no counterparts in non-Indian public housing. The victims of conflicting and changing federal Indian policies should not be blamed; if the unit cost of Indian housing is in fact greater due to these factors, the elimination of the Indian Housing Program would penalize the tribes for problems which they did not create and resulting costs which are beyond their power to control.

The hard truth is that Indian housing authorities generally have no alternatives to the HUD Indian Program. This should be contrasted with the options available to non-Indian public housing authorites. State and local governments have tax bases and other means of funding public housing which are simply not available to tribes.

Within a span of ten years, the Colville Housing Authority has made great strides in capability in terms of producing many units of housing, on time, for the least cost possible. The Colville Housing Authority has produced a housing project every year with the result that there are now more than 400 units either occupied or under active construction. Nor can it be said that the Colville Housing Authority is or ever has been behind on construction; to the contrary, the Housing Authority has done everything possible to expedite each project. No project has ever been extended. Each one has been completed prior to the projected date of completion, sometimes by as much as four months. The Housing Authority also has administered the pre-development phases in an efficient and expeditious manner. The target dates established by HUD upon initial approval of each project have always been met by the Housing Authority, and any rescheduling that has occurred during these pre-development periods has been made to accommodate the needs of agencies other than the Housing Authority. The current project illustrates this efficiency. The Colville Housing Authority applied for the current project on March 1, 1980. Bids were opened on March 10, 1981, and the construction contract was signed on March 31, 1981. Again, we invite a fair comparison with any non-Indian public housing authority.

Management capability of Indian tribes to construct and operate low income housing projects has grown at a tremendous rate. This has been done in a much shorter time than has been available to non-Indian public housing authorities. Tribes across the country have developed administrative structures which now have an expertise which will be lost and expensive to regain should the Indian Housing Program be eliminated. The board members of the Colville Housing Authority and its Executive Director collectively bring to their work more than 42 years of experience in Indian housing. The loss of this experience would be anything but cost-beneficial.

Finally, it should not be forgotten that federal Indian housing funds are joined by tribal contributions. We refer here to tribal funds and services separate and distinct from BIA services or federal funds which have passed through the tribes. Much of the housing constructed by the Colville Housing Authority is on tribal land. The Colville Confederated Tribes have provided survey assistance, legal counsel, road construction, office space and has contributed toward the wages of the Executive Director and his staff, utilities and transportation costs.

In conclusion, the Administration's proposed elimination of the Indian Housing Program would be a devastating blow to Indians whose tribes have struggled to achieve a satisfactory level of safe and decent housing on their reservations. Certainly, all must recognize that the current atmosphere entails a push for greater fiscal accountability which cannot and should not be resisted. Much can be done to streamline federal agency procedures. Moreover, budgetary cutbacks appear inevitable, and all who depend upon federal support must bear this burden. Reasonable cutbacks in the Indian Housing Program are not objected to, but the total elimination of the Indian Housing Program is manifestly unjust and inequitable. The benefits of general public housing will not reach Indians who live on reservations far from urban centers -- how will the Administration justify leaving them out?

STATEMENT OF THE CALIFORNIA STATE SOLID WASTE MANAGEMENT BOARD

The California Solid Waste Management Board is opposed to the concept of cessation of funds in FY 82 for Subtitle D, Solid Waste Disposal Act Amendments of 1980. Our reasons are summarized as follows:

Violation of 42 USC 6916(d). The reauthorization of RCRA was preceeded by extensive scrutiny of the program as implemented through mid 1980. The resultant Act was the product of thorough and broadly based compromise amoung industry, government and the public. Subtitle D was thus supported partly in recognition of States' needs, and partly in consideration of national priorities, such as sound energy and materials use. Congressional findings in this regard are stated at 42 USC 6941. To eliminate the federal solid waste management program at this time would unwisely negate the consensus achieved by Congress last October, when the act was reauthorized. That consensus recognized the need to appropriate funds for an integrated program to manage both hazardous and non hazardous wastes. That consensus created a multiple waste management program of practical utility.

Congress saw fit to link Subtitle D appropriations to overall RCRA appropriations with a percentage not to exceed 25%. The proposal to eliminate Subtitle D funding, therefore, should be put before the respective House and Senate authorizing Committees. The proposal should be considered as an amendment to the 1980 RCRA reauthorization, not as amendment to the budget, so that its merit can be tested in the specific forum of waste management issues and not in the general forum of budget reductions. Otherwise, funds should be appropriated to implement the Solid Waste Disposal Act Amendments of 1980, as Congress intended.

Non-Hazardous Waste Problems are Significant

Not every state is plagued with extremely serious toxic waste problems, yet each state, including those which do have toxic waste problems of great magnitude, is faced with a garbage crisis of serious dimensions. California, for example, annually discards some 46 million tons of non-hazardous wastes at a cost of $600 million dollars a year. This amount of discarded material is recoverable; it represents the annual equivalent of 70 million barrels of oil in our state alone. Litter clean-up boosts the costs to Californians to $700 million a year. Compounding this problem is the fact that a fourth of California's landfills will close within 10 years. Replacement facilities must be found, but their costs are substantial and formidable barriers of public opposition stand in the way. Another aspect of the non-hazardous waste problem is the threat to the environment from improperly disposed wastes. Gas migration, groundwater contamination, public safety and public health are involved. California has been using the Subtitle D program to face these problems. This has been a learning experience for us in that, although our State's program predated the federal one, we actually have a long way to go before the problems will be solved. Our RCRA planning project is bringing unity and consistency to our multiple local solid waste programs. Our permit program has been enhanced, we have started a data base, and the dump inventory, now 1/3 complete, has resulted in significant compliance with disposal standards. To stop these programs now would be tantamount to wasting the funds already invested, because State funding for these purposes is dependent upon federal leadership.

The Proposed Program Elimination is Premature

EPA delayed Subtitle D by withholding funds and deferring its rulemaking during the Carter Administration. It proposed, however, a gradual, orderly transition of program management from the federal level to the States, over a 5-year period of which 2 years are left. The Solid Waste Disposal Act Amendments of 1980 validated that strategy by its reauthorization of Subtitle D.

Our entire program has been oriented to the 5-year transition. We are committed to development of program self-sufficiency within the previously established limits. To terminate the program now will result in unmet needs because there is no way our state and local budget processes can be compelled to assume the full burden at this time. California, after all, is well-known for its severe tax reductions. These are now being implemented such that solid waste issues are of lesser priority than other public needs like police, fire, education and health care. Since we cannot redirect scarce funds on short notice, we must consider terminating the solid waste program or seek new revenue sources. The latter are generally thought of in terms of user fees. Because Californians regard fee hikes as surrogate taxes, such additional revenues are extremely unpopular and certainly not likely to win support on short notice.

Eliminating Subtitle D Means Eliminating the Potential to De-regulate Certain Rules While Still Meeting Congressional Intent

Industry has long sought a "degree of hazard" approach to Subtitle C, for all wastes do not have the same potential to harm people or the environment. At the same time, though, industry has conceded that the public has a good point in desiring some level of regulation. We have found the waste management industry to be highly receptive to rules that make sense.

Subtitle D is a less stringent regulatory program than Subtitle C, quite adequate for regulation of certain kinds of wastes. Energy production wastes, mining wastes, sludges and so forth, may be better served by Subtitle D than Subtitle C. Indeed, the amended Act recognizes this possiblity by de-regulating these wastes for the time being. We believe it is government's duty to provide some kind of assurances to the generators and disposers of such wastes that they will not drift about in a twilight zone of regulatory and legal uncertainty. Furthermore, we are extremely concerned about the implications of the exclusion of hazardous wastes in "small" quantities from the Subtitle C program. Subtitle D is the only control vehicle for these excluded hazardous wastes at present. It may make sense, administratively, to delete them from Subtitle C, but it is certainly unwise to absolve them from all controls. Eliminating Subtitle D would, however, have that effect.

Vulnerability to Litigation

Thus far, through Subtitle D, our State has imposed restrictions on many disposal facilities. Most facility owners and operators have cooperated with our program and spent money cleaning up their discrepancies. If we fail to impose these rules equally on all affected parties, we run a real risk of litigation by virture of arbitrary application of regulations. We believe California's waste management industry deserves fair treatment: either everyone plays by the rules or no one does. Since many of our State's facilities have complied, it would be both unfair and unwise to end Subtitle D before completing even half of the facility inventory.

Concurrently, the public has come to expect our Board to apply the rules. We cannot, in good conscience or sound financial judgment, say, "It really doesn't matter anymore." Californians demand the abatement of open dumps, and may apply the citizen suit provision of the Act to ensure the end of open dumping. Failure to follow through on the dump inventory and regulatory compliance is an open invitation to a citizen suit against the State and EPA, and it places the affected facility operator in grave jeopardy. The amount of money lost to citizen suits could easily dwarf the budget "savings" from the elimination of Subtitle D.

Conclusion

Elimination of Subtitle D funds at this time is unsound for a number of reasons. We therefore urge the full implementation of 42 USC 6916(d), which ties Subtitle D on a formula basis to the rest of the Solid Waste Disposal Act Amendments of 1980.

Your attention to our point of view is greatly appreciated. We would be pleased to supply further information if so requested.

STATEMENT OF DR. ALBERT C. ZETTLEMOYER ON BEHALF OF THE AMERICAN CHEMICAL SOCIETY

My name is Albert C. Zettlemoyer, University Distinguished Professor at Lehigh University. I am President of the American Chemical Society, and I appear before you today with the authorization of the Society's Board of Directors. Accompanying me is Dr. Jack B. Kinsinger, a member of the ACS Committee on Chemistry and Public Affairs and Associate Provost at Michigan State University. Also accompanying me are Dr. Fred Basolo, Morrison Professor of Chemistry at Northwestern University, and Dr. David McCall, Chemical Director, Research, Materials Science and Engineering Division, Bell Laboratories. My colleagues in chemistry do not have prepared statements. They will join me in answering questions from the Subcommittee.

The American Chemical Society welcomes this opportunity to present its views on the Administration's proposed budgets for the National Science Foundation, and hopes that the Society's comments will be useful to the Subcommittee in its deliberations.

Mr. Chairman, the Society would appreciate if you would consider including in the records of these hearings a statement on the NSF Organic Act we submitted last year to the House Subcommittee on Science, Research and Technology, and several articles from our weekly publication, Chemical & Engineering News, to which we will refer in this testimony. Mr. Chairman, we are especially pleased that this Subcommittee now has a role in the budget authorization and ensuing oversight of the National Science Foundation. We believe that active and thoughtful leadership in the Congress, with the help of those who like yourself have a scientific or technical background, is of vital importance to the health of scientific research in this country.

INTRODUCTION

In our testimony today we will try to be responsive to your request that we present our general observations about the physical sciences programs of the National Science Foundation, and the implications of the budget prepared by the Administration for these programs. Also, we will attempt to give you the Society's views on the relationship of the industrial, university, and governmental sectors in the conduct of basic and applied research, a topic which you also suggested we might address.

In responding to your request, our testimony will cover several lines of policy followed by the Administration in arriving at the rescissions for FY 1981, and the revisions in the FY 1982 budget, that are of great concern to us. We are especially concerned about what these policies portend for the Foundation over the next several years. We have several recommendations to offer.

We also want to express our support for the continuation of certain programs at the Foundation, such as science and engineering education, instrumentation, and women and minorities in science.

Our testimony will not dwell extensively on the case for supporting science with public funds, based on the role that science plays in our economy and in other aspects of our national security. In our opinion, the case is strong, and has been stated well by others. Likewise, we will not comment on whether our national policies for investments in R&D are adequate in comparison to the policies of other countries. We do note that it is important for the science community to continue to address federal support for science, in order to help maintain the strong backing it has received from the Congress, and from the American people.

SCIENCE FUNDING POLICY IN THE ADMINISTRATION

The ACS is gratified that the Administration has expressed, both in policy statements and budget submissions, its belief that basic research is critical and important. The following quotations from two documents of the

Administration express the essence of its emerging science policy. The first from "A Program for Economic Recovery," dated February 18, 1981, reads:

> "The proposed reductions would not affect the previously proposed level of support for basic and applied research in the mathematical and physical sciences, engineering, and the astronomical, atmospheric, earth, and ocean science. These programs have not been reduced because research in the natural sciences and engineering is of relatively high importance to future technological advancement and the long-term economic health of the Nation."

"Additional Details on Budget Savings, April 1981," from OMB states:

> "The revised budget will still permit a 15% increase over 1981 in support of research in the natural sciences and engineering. Support for such research is the highest priority responsibility of the Foundation because - along with other Federal long-term research - it provides the underpinning for future growth in the economy and leadership in science and engineering."

However, we do see troublesome implications for the NSF in some aspects of the Administration's science policy. First, in spite of the Administration's express support for long-range research in the physical sciences, it is clear that it views NSF as a place where budget cuts can be made and major programs can be deferred or cancelled. This policy is troublesome, because it is at odds with the needs of the scientific enterprise and will have damaging consequences in both the short and long term. When we project into the future the current policy of maintaining support of basic research in the physical sciences, while decimating or postponing related activities deemed of a lesser priority or even inappropriate, we are greatly troubled.

President Reagan's multi-year budget plan for the NSF, as it appears in the latest OMB document on the revision of the FY 1982 budget, is presented in Table 1 of the Appendix. Examination of the plan shows that it does not keep up with the current inflation rate and takes a very optimistic view of future inflation rates. The NSF budget is not likely to remain level on a constant dollar basis under the plan. It appears that the only way the Foundation can maintain support of basic science programs at a steady level will have to be at the expense of other important programmatic activity. Moreover, the most important aspect of this plan is the way in which it will likely change as the budget-cutting process begins anew this Fall in preparation for the FY 1983 budget to be released next January. OMB has stated that additional cuts, above those already incorporated in the economic recovery program announced in March, will have to be made. In its March, 1981, document, "Fiscal Year 1982 Budget Revision," OMB stated that "further spending reductions affecting 1983 and subsequent years are also planned. These further reductions will be identified in later messages and budgets." For 1983 through 1986, the proposed reductions are $29.8 billion in 1983, $44.2 billion in 1984, $43.7 billion in 1985, and $42.7 billion in 1986. Thus, it is clear that, under existing policy, the NSF will be required to absorb new cuts again in these future years and these cuts could be of the same magnitude as this year's. No matter where these cuts are made in the Foundation, they will affect important operations drastically. This will be true regardless of whether it is the Foundation, the National Science Board, or the OMB that decides where to apply the cuts.

This may mean further postponement of instrument and facility funding, no new start-up of education programs, and more dipping into the basic science and engineering funds to support these other functions. Thus, we see the need for further analysis and reconsideration of science funding policy.

BASIS FOR AN ALTERNATIVE FUNDING POLICY

The ACS agrees that there is a need to bring government expenditures closer to tax revenues, and a need to establish a fiscal policy that will carry the country into the future on a sound economic footing. According to the April 1, 1981, OMB document on the budget:

> "The President decided that achievement of his budget targets will require an end to the proliferation of new Federal programs and a reversal of the trend toward greater federal roles in planning and controlling economic and social decisions. He directed that all federal programs must be subject to thorough scrutiny. However, in doing so he decided that: 'a margin of safety must be created by rebuilding the Nation's defense capabilities; the Social Safety Net of income security measures erected in the 1930's to protect the elderly (including cost of living protection for the elderly), unemployed, and poor, as well as veterans, must be retained.'"

In addition to the adverse effects on the economy of a long history of deficit spending, key elements in our economic system are showing clear signs of weakness; namely our ability to generate technological innovations, and our productivity. The ACS believes that a government policy seeking to bring the budget into balance and cut individual and corporate taxes should not in any way conflict with the goals of increasing our productivity, and our capability for innovative and technological advances.

This policy should be far-sighted and sufficiently comprehensive, so that while we are reducing the growth in government spending, we are not eliminating spending that has a direct relationship to the long-term viability of our technology-based economy - specifically the funding of basic research. The majority of the basic research in this country is carried out in our universities by faculty, graduate students, postdoctorals, and technicians. Thus, expenditures of public funds for basic research are an investment in an enterprise that provides returns of new knowledge as well as highly trained and educated people. More tangible returns, like technological innovation, come later as the knowledge is further absorbed and applied by these highly trained people.

The present policy which on the one hand states that basic research is valuable and worthy of support with public funds, but on the other hand allows critically important adjunct functions to be swept aside, is not a sound or viable policy. It is not responsive to how the academic scientific and engineering research-and-training enterprise functions, or to what is needed to keep it healthy and productive. If in fact, this policy reflects real differences in opinion as to how the national academic enterprise should be organized and operated, a national debate should ensue before drastic alternatives are advanced.

It is generally accepted as appropriate for the government to support long-range scientific research and sustain the health of the scientific enterprise. Many successive administrations have recognized and accepted this premise. However, we sense that there may be some difference between how the current Administration views this enterprise, and how we and others in the scientific and engineering community view it. What we define as the scientific enterprise can be likened to a highly vertically integrated and specialized production operation which requires a substantial investment of capital and management skill to operate. A policy-setting group is needed to develop the supply of necessary capital, and to guide the management. The policymakers as well as the managers of this enterprise must fully understand all of its parts and their functions as separate entities, and as parts of the integrated system.

Academic institutions are the major operating component of the American scientific enterprise. Their two products are new knowledge, which is becoming more and more sophisticated, and highly skilled and trained people. The basic process involved is a combination of education and research. The raw materials are people and ideas. The process begins at the first of the integrated production operation - the elementary and secondary schools where the basic raw materials are produced - and culminates at the research universities.

All the units in this integrated arrangement require specialized equipment and specially trained workers, both of whom must be kept up to date to ensure a quality product. Also along the way are management people responsible for the smooth operation of the process, and for ensuring quality control at each step.

A critical prerequisite for the continuing production of basic knowledge and trained people is a commitment to provide sufficient working capital to sustain operations and expand them when necessary. Such policy decisions require an understanding on the part of policymakers of the needs of the system, and confidence in its management. For the academic research enterprise, that policymaking role rests mainly in the federal government. Finally, the investors, who in this albeit not perfect analogy are the taxpaying public, need to be informed, and need to have a level of understanding that allows them to participate in the investment decisions.

It is crucial that this Administration establish a policy regarding federal support of science and engineering that will keep this enterprise sound, and second to no other in the world. This policy will ensure the continued production of the knowledge and the skilled people to keep us at the level of scientific and technological leadership we have enjoyed. Key elements of such a policy are: consistent financial support, and a sound administrative framework for making the critical decisions about resource allocations.

RECOMMENDATIONS

Just as the Administration has singled out defense for strong budget support in the national interest, we recommend that the same recognition be given to long-range scientific research. Since the NSF is the main agency whose mission is to support that research, there should be a clearly established policy to protect its budget in the ensuing years.

We recommend that the Administration put into place a Science Advisor who will provide knowledgeable input at the highest policymaking level in the executive branch, to ensure the optimum productivity of the research enterprise. The Administration also should clearly reaffirm that the Director of the NSF and the National Science Board are to provide the mechanisms that guide the broad distribution of funding at the Foundation.

We recommend that the Administration and the Congress provide for growth in the total NSF budget. Over the next decade, the overall level of funding for the NSF at a minimum should keep pace with inflation. Table 2 presents the history of funding for the Foundation in current and constant dollars from 1973 to the present. On a constant dollar basis, we are losing ground. Because there have been less than adequate increases in the investment, the working capital has not met the needs of the enterprise, and the operations are suffering. Catching up will be expensive.

We also recommend that the National Science Board and the Director of the Foundation be allowed to work out the priorities and details of the programs to be supported. The Foundation has done an outstanding job of administering its programs. Over the years, the Foundation and the scientific community have evolved a complex mechanism for decisionmaking that has proved to be successful.

We urge the Congress to exercise its oversight functions and continue to review, analyze, criticize, and support the Foundation, while resisting the natural inclination to become too explicit in instructing the Foundation on how to achieve its mission.

As to our specific recommendations on the current NSF budgets: first, the current FY 1981 plan as approved by Congress, which provides a budget of $1,096 million, should be retained and the proposed rescissions not be taken. Second, the FY 1982 budget should continue to provide for programs eliminated in the Administration's revised budget. The Society has endorsed the action of the House Subcommittee on Science, Research and Technology which restored some funds for Science and Engineering Education; Biological, Behavioral and Social Sciences; Scientific, Technological, and International Affairs; Cross-Directorate programs; and research equipment and instrumentation.

In summary, we believe the current Administration policy on science funding could seriously affect this country and the future of the NSF. This policy needs to be turned around. Programs cut back or eliminated from the

Foundation's FY 1981 and 1982 budgets should be restored to a level of funding where they can operate effectively.

THE PHYSICAL SCIENCES

Having presented our views on the current science policy of the Administration, our support for NSF involvement in a wide range of science-related activities, and our conclusions and recommendations, I should like to make some comments on why investment in research in the physical sciences is especially justified.

Funding

A major responsibility of the Foundation from its very beginning has been to support basic research in the physical sciences. This support plays a key role in advancing these sciences. It is critically important to the country that the Foundation be able to continue this support, and at a significant level.

In recent years, the application of new knowledge developed from basic research in several fields has led to the development of outstanding new instruments and equipment. This hardware allows researchers to experiment, test, measure, and evaluate with unprecedented speed and accuracy. Thus, there are now great opportunities for exploring the nature of matter in greater depth and detail than before. There is much that invites investigation and promises breakthroughs into new knowledge and new applications.

To continue to move forward, sufficient support needs to come from the government. Previous administrations and the Congress have been supportive of the Mathematical and Physical Sciences Directorate (MPS), but not consistently so. We have examined the funding for this Directorate since 1973 in terms of current and estimated constant dollars. This information is presented in Table 3 of the Appendix.

Funding appropriated by Congress for MPS from 1973 to 1980 has increased at about a 13% average yearly rate in current dollars. Measured in estimated constant 1972 dollars, the average yearly increase over the period has been only 1.8%. It is clear that funding has barely kept ahead of inflation. For FY 1981, the Administration is proposing that the increase over 1980 be held to $21.23 million or 9.4%. In terms of 1972 dollars, this represents a $ 0.78 million decrease. For 1982, the Administration is proposing a $47.19 million, or 19%, increase over its 1981 proposal. In estimated 1972 dollars, this represents an increase of $12.12 million, or 9.5%. For the period 1980 - 1982, the average yearly increase in estimated constant dollars is 4.4%. At a minimum, future funding for the physical sciences should continue to allow for consistent real growth.

We are concerned that the directorates responsible for basic research may have to internalize the funding of adjunct programs such as instrumentation, minorities and women, and industry-university cooperative research. In testimony before various Congressional committees this year, the NSF Director indicated he has asked the Assistant Directors and Division Directors to fund proposals in these adjunct areas. It seems to us that, even with the proposed increases in support for the basic research directorates, there is indeed little room for such diversion of their basic research funds.

Benefits

The success of NSF-supported research has been measured in terms of the scientific knowledge gained. A study by the National Science Board in 1977 identified major advances in four fields of science - mathematics, chemistry, astronomy, and earth sciences - made over the past twenty years. It reveals that NSF provided the support for 20% of the pre-1968 innovations in research, and 67% in the period 1968-1976. Federal agencies provided support for over two-thirds of innovations in earth sciences and mathematics, and a little over half in chemistry. Most of the astronomy innovations were federally supported. University scientists were found to constitute 72% of the investigators responsible for the innovations.

An interesting finding was that only 43% of the projects which led to these advances actually had contained in the funding proposal an explicit and direct reference to the expected advance. One implication is that a significant portion of the advances in scientific knowledge cannot be foreseen at all, or may only be discerned in terms of the potential in a general area of inquiry. Therefore, the ACS believes that the NSF can play a constructive role in assuring that all promising areas of long-range research are funded.

CHEMISTRY

Funding

The American Chemical Society can best address the value of the Foundation's support of the physical sciences by using basic research in chemistry as an example. Everything in our physical world is made of material that lends itself to a multitude of transformations, substitution, and preservation through chemical science and technology. Technology can use scientific knowledge to bring about new, useful, and better products; more food; improved health; and to make these amenities available to all our people. Additionally, chemical science and technology are helping to identify and solve the problems their own development may have created, as the appropriate resources are focused on that purpose.

Recent estimates indicate that chemistry directly accounts for about 6% of the GNP. The role of chemistry in the economy has been well documented in a study conducted by the ACS in 1973 appropriately entitled Chemistry In The Economy. One of the many prominent chemists who contributed to the study, Dr. Milton Harris, is being honored today in Washington by the ACS and others on the occasion of his 75th birthday.

At the outset, we wish to mention that the Chemistry Division of NSF is doing an admirable job of ensuring that the highest return is obtained for every Federal dollar spent. Seven specially-appointed panels of chemists reviewed the operation of the Division last year and concluded that it is very well administered. The panels praised the way the Division ensures that high quality research is funded. The cutoff point where proposals were not approved in all seven subdisciplines funded by the Division was found to be at a level of high quality. Unfortunately, a large number of good research proposals had to be declined due to the lack of sufficient funds. The effect on the health of science - and thus the economy - of not exploring all the good research leads cannot be anything but detrimental.

We have looked at the funding for the Chemistry Division in current and estimated constant dollars. The information is presented in Table 4 of the Appendix. Budget authority for basic research in chemistry funded by the Division has slightly more than doubled in the period 1973 to 1980. In estimated constant 1972 dollars, there has been an uneven growth pattern which averages to a 3% annual increase.

For FY 1981 the Administration is proposing a $4.4 million increase for the Chemistry Division. In estimated constant 1972 dollars, this is equal to a $0.4 million decrease from the previous year. The FY 1982 proposed budget for the Chemistry Division calls for an increase of $10.1 million or 18% over FY 1981. This apparently significant increase reduces to $2.5 million in estimated constant 1972 dollars for an 8.6% change. For the period 1980 to 1982, the average yearly increase in estimated constant dollars is 3.6%.

Thus, in recent history basic research in the Chemistry Division has fared relatively well. As we saw, however, it is marginally keeping up with inflation and growth over that period.

When policymakers analyze the NSF appropriateness and adequacy, they must bear in mind the position the Foundation occupies in the national effort in this area. The ACS Committee on Economic Status recently issued a study on "Support and Manpower for Basic Chemical Research" which was subsequently reprinted in Chemical and Engineering News (August 8, 1980, page 28). The author of the study, Dr. Gerhard G. Meisels of the University of Nebraska, used statistics collected by NSF to draw a composite picture for basic chemical research. In 1977, the total funds from all sources for basic chemical research conducted in the U.S. was $564 million. Of that total, $163.5 million was conducted in universities, with the federal government providing the majority of the funds at $124.3 million. Industry and other private sources provided $39.2 million.

While the Chemistry Division is the major source of funds for chemical basic research at NSF, chemical sciences are pervasive and other Divisions of the Foundation support related activities. In 1977, the NSF funded a total of $54.4 million in basic chemical research from all its Directorates. Thus, the Foundation in 1977 was responsible for funding 9.6% of the total amount of basic research conducted in the U.S. However, the NSF funded 33.3% of all basic chemical research conducted at universities. Also, the Foundation accounted for 43.8% of the total federal funds going to universities for basic chemical research. In addition, NSF reportedly provides 80% of the current total national support for chemical instrumentation. At this point, I should like to mention that ACS, through its Petroleum Research Fund, is currently supporting basic research in chemistry at approximately $5 million per year.

Benefits

The National Science Foundation's support of basic research in chemistry is extremely important to the health and advancement of the science. One may wonder why this claim is made, when NSF appears to support a relatively small portion of the basic chemical research in this country. The answer lies in where NSF support is directed, and in its selection of the research projects to be supported.

While the Foundation supported only 9.6% of the total 1977 basic work in chemistry nationwide, it did supply the funds for approximately 33.3% of university basic research in chemistry. Thirty-three percent is a significant figure. Upon it depends the health of the research base in academic institutions.

The NSF plays a key role in trying to ensure that the opportunities in basic chemical research not funded by other government agencies are met through its programs. For 1979, it is estimated that federal support of chemical sciences reached $453 million. Of this total, NSF contributed $66 million or 14.6%. Again, the Foundation's support is extremely valuable because it goes to key areas. In the simplest terms, NSF supports pioneering research that is crucial to the advancement of the science. A significant portion of the federal investment in research in chemistry is mission-oriented. As such, the basic research part of that activity is directed toward the goals of the mission. This work certainly adds to the store of basic chemical knowledge but is not likely to exploit opportunities which clearly exist outside of the confines of the mission.

Finally, the Foundation supports the kind of work industry is not likely to do. Corporate research, even of the most basic nature, is always structured to meet the near-term needs of the corporation. The goal of industry is to develop and sell products, resulting in a financial gain to the company and its investors. There is no valid business reason for industry to conduct basic research that does not offer a foreseeable return within a reasonable time period. This is a crucial distinction. The time perspective of industry is necessarily focused by competitive business and investment strategies. It is worth noting here that the chemical industry's plans for investment in R&D are back on the upswing. The recent data reported in Chemical & Engineering News (January 19, 1981, page 26) show that R&D budgets of the leading 15 basic chemical companies in the U.S. have a good chance of rising as a percentage of sales. The article points out that, at present, a corporate desire to find breakaway products based on new chemical science underlies much of the current gains in R&D support. "R&D enjoys a level of top management pleasure not seen since the mid-60's," according to Chemical & Engineering News.

As in the mission agencies, corporate research does not cover the full spectrum of researchable areas, or those where the economic pay-off is distant or highly speculative. Industrial research is not, and is not likely to become, a substitute for the research supported by the NSF broadly based programs. To go back to our analogy of a production operation, industrial basic research might be viewed as the next stage of integration of academic science.

The statistics produced by the National Science Foundation indicate that the chemical industry makes a substantial investment in basic research. There are differing opinions among industry as well as academic researchers as to the actual level of effort in basic research in the chemical industry. The differing opinions result from conflicting views on what constitutes truly basic, long-term, pioneering research. There is usually agreement, however, that the research proposals funded by NSF fall into the basic, long-range category. It should not be concluded that academic research funded by NSF is more relevant or worthwhile than the basic research in industry. The overall goals of the two sectors are different, and this is reflected in the patterns of their research efforts. The important point is that a healthy economy requires that each sector operates at a high level of effort.

In your letter to the Society, you suggested we might say something about our views on the relationship between industry, universities, and government.

There is no question that industry benefits from the research at universities, including that supported by NSF. One very important and indisputable benefit industry derives from academic basic research is in the flow of talented people made available to industry. However, this flow sometimes fluctuates very badly. For example, the current situation regarding the supply of trained people in science and engineering is of great concern to academia and industry.

In addition to advancing scientific knowledge, basic research often leads to important industrial applications. Research on catalyst systems presents numerous examples of basic research supported by public funds which led to fortuitous unanticipated results. Thus, in the 1950's, NSF support of basic research in the organometallic area set the stage for the development by Monsanto of catalysts for the production of synthetic L-Dopa and acetic acid. L-Dopa is a pharmaceutical used to treat Parkinson's disease, and acetic acid is the raw material for producing a vinyl plastic used in packaging, and cellulose acetate fiber used in clothing.

Around 1975, both Union Carbide and Celanese put into operation large commercial plants for making oxo alcohols using a catalyst system; the development of which can be traced back to the study of the bonding of hydrogen to certain metals. The products from these plants are utilized in plastics and lubricating oils.

In almost any area of our modern society, fundamental contributions from basic research can be found. For example, basic research in photochemistry, physical chemistry, and solid state chemistry contributed to the development of the silicon integrated circuit and optical fibers, both resulting in startling changes in the communication industry. A report recently released by the Office of Technology Assessment observes that "several decades of support for some of the most esoteric basic research has unexpectedly provided the foundation for a highly useful technology [genetic engineering]."

In general, there are areas of overlap between academic research and industrial research. Furthermore, linkages based on research have always existed. There has been much concern expressed recently about the need to increase the cooperation between the two sectors. Many claim that close and more frequent cooperation will greatly benefit the two parties, and stimulate technological innovation. Others express some caution on the grounds that university researchers may become too oriented toward the research objectives of industry, and may be diverted from their pioneering basic research. Much has been written about the ways and means of cooperation; that in and of itself has helped foster the spirit as well as the realities. A recent article by David M. Kiefer in Chemical & Engineering News (December 8, 1980, page 38) covers the subject very well, and I have asked that it be included in the record.

The movement toward cooperation should be encouraged from all quarters. The American Chemical Society for years has had a program that brings together academic and industrial chemists for an exchange of views. The ACS also has an ongoing project to define new ways by which it can encourage cooperation in chemistry between the two groups. The Industry-University Cooperative Research program at NSF is considered by both sectors to have resulted in productive relationships. It should be noted that for many years, industry has supported basic chemical research in universities in a variety of ways, including unrestricted grants, fellowships, and scholarships. However, industry's share of the support of academic research has been declining until recently when it exhibited a modest upturn.

Currently, there is much discussion regarding a tax credit for industry to finance research at universities. The ACS endorses this mechanism for providing the needed increase in industrial support of university research, and increasing cooperation between the two sectors. If these tax proposals are adopted, we hope industry will respond with an increase in support for universities. Any such additional support, when added to real growth in NSF funds, will bode well for academic research in the chemical sciences.

INSTRUMENTATION

The instrumentation problem in universities is well documented. The survey which the Association of American Universities (AAU) conducted last year of 16 major research universities revealed what AAU deemed to be "a striking disparity in the age of university and industry instrumentation." The median age of university instrumentation is twice that of instrumentation in the two industrial laboratories surveyed.

University researchers are experiencing considerable difficulties replacing worn-out or obsolete instrumentation, and acquiring new state-of-the art equipment. Inflation is only a small component of the cost increase. Major causes are the advances in instrumentation technology, and the advent of totally new instrumentation which is exceedingly expensive.

Chemistry, for example, has in recent years evolved from a "bench top" science to become predominently equipment intensive. The AAU report provides a comparison of start-up costs in one subfield of chemistry: synthetic organic chemistry. Table 5 shows what it costs to equip a new faculty member to investigate the same general phenomena in 1970 and in 1979. The cost of routine lab equipment increased from $8,000 to $43,850. Most striking, however, is the cost of equipment to which the investigator must have access, through one means or another. That equipment, which cost only $116,500 in 1970, had soared to $741,000 in 1979.

One consequence of this is that some chemistry departments have closed off certain areas of research, such as surface chemistry and organic conformational analysis, because they cannot generate the funds needed to equip investigators. This trend can be very detrimental in the long-run. For example, the study of surface chemistry holds the key to the solution of many of our energy problems, beceuse of its potential contribution to our understanding of catalysts and how they work.

Turning to the cause of this situation, we find that most instrumentation in universities is purchased with federal research funds. However, the size of research grants has not kept pace with the rising costs of the equipment needed. Some investigators who seek to maximize their chances for funding will press less vigorously for needed instrumentation. They reduce their requests to fit their reduced expectations of what agencies will provide. In addition, principal investigators and students often have to pitch in to do maintenance tasks which divert their time from valuable research and teaching activities. This happens because universities often have insufficient funds for support operations and maintenance of the equipment. In summary, the majority of university research programs, which indeed do manage to produce first-rate science, often do it inefficiently and less productively.

While we have addressed only research instrumentation so far, there are other dimensions to the instrumentation problem in universities. In chemical engineering, the predicament of having to teach students with antiquated and broken equipment is particularly severe, as has been reported in Chemical & Engineering News (February 9, 1981, page 43). Instrument development has also been squeezed out of many university research programs, while it is still pursued in some government labs.

In the face of rapidly rising instrumentation costs due to increasing sophistication in the technology, it seems to make sense to pool resources and share equipment. The AAU report finds that university and industrial researchers are now seeking ways to increase collaborative arrangements. However, universities vary considerably in the extent to which they have exploited the potential for departmental, cross-departmental, and inter-institutional arrangements. Attempts by investigators to pool funds from separate research grants to purchase mutually needed instrumentation are hampered by rigid funding procedures. This is particularly difficult where several funding agencies are involved.

We agree with the AAU recommendation that increased support for instrumentation should be given through individual research grants. The size of the individual awards must be increased, and a larger percentage of funds allocated to instrumentation.

In addition, funds for departmental instrumentation need to be increased. The Chemistry Division at NSF has done a very good job of providing departmental instrumentation, as has the Materials Research Division. It should be noted, however, that the $2 million rescission for 1981 in the Chemistry Division was in the equipment category. In an interview with Chemical & Engineering News (April 20, 1981, page 21), Dr. Richard Nicholson who heads the Chemistry Division said: "We stopped the equipment grant program in its track. We thought this would be least disruptive as these grants do not carry any personnel with them ....We did not do it because equipment is a low-priority." Thus, we see the Division taking two steps forward and one backward in its efforts to remedy the instrumentation problem in chemistry departments.

We also agree with the AAU on the need for more flexible requirements for the acquisition of major equipment for shared use, and the need for a study of the factors - including federal policies - which encourage or discourage collaborative arrangements between industry and universities.

In order to address this problem more directly in the future, the ACS is establishing a program to continually assess the needs in chemistry for instrumentation, equipment, and special facilities.

WOMEN AND MINORITIES

Proper use of human resources includes utilization of all people, including women and minorities. For many years, the Women Chemists Committee of the American Chemical Society has been active in promoting the development of NSF programs which can increase the involvement of women in the totality of scientific endeavor. Many of these programs are already operating successfully within the Foundation. Others were mandated recently by Public Law 96-516, "The NSF Authorization in Science and Technology Equal Opportunities Act."

We believe there is a demonstrated need for these programs. Indicative of this need is the underrepresentation of women on faculties of institutions granting Ph.D. degrees in chemistry. This has been clearly documented by surveys conducted by Dr. Agnes Ann Green for the ACS Women Chemists Committee. For the academic year 1978-1979, out of a total of 4,253 faculty (excluding lecturers and instructors), only 132 were women. In institutions granting Ph.D. degrees in biochemisty, 227 of 2,351 full time faculty were women. Similar information is not available for minorities. Among the more than 120,000 members of the ACS, approximately 13,000 are women, and between 5,500 and 8,000 are members of minority groups.

It is necessary for the maintenance of the future of the total U.S. science enterprise that women and minorities participate on an appropriate level in all areas of science. Opportunities for the advancement of women and minorities must be developed. Programs such as the recently mandated National Research Opportunity Grants, for example, would provide funding for research conducted by women scientists, and enlarge the pool of research talent in the nation. It should be noted that these research grants do not take resources away from the primary thrust of the NSF - the funding of basic research in science.

In addition, we give strong support to the Foundation's programs for training women scientists whose careers have been interrupted for reentry into the workforce. We endorse the continuation of these very successful programs, because the full utilization of all the nation's science resources is important.

Finally, since attitudes toward careers in science and technology are formed early, we believe that efforts at the elementary and secondary school levels, such as science career awareness projects and apprenticeship programs for minorities, must be continued.

SCIENCE AND ENGINEERING EDUCATION

From the outset, Congress recognized that a creative and vigorous research community depends on the development of an adequate supply of highly trained and talented men and women. The statutory authority for the Foundation in science education grew out of this need. The overall science enterprise cannot be operated efficiently, and in accord with sound management practices, without a due concern for manpower and human resources. We cannot rely on market forces alone to provide adequate manpower, as suggested by some. The time delays are too long. This nation could not have attained its present position in science and technology without the strong support provided by the Foundation's science education programs. Basic research and science education should not be placed in adversary roles where they compete for the same federal dollars, as is presently the case. Each is a necessary component of a healthy national science capability.

It was recognized that long-term productivity of individuals in science can only be maintained if the study of science is initiated early in every child's formal education, maintained through the critical years when educational goals and value judgments are developed, and - for those who so choose - allowed to reach full productive potential in the research environment of graduate institutions. Consequently, the Foundation sought to improve science teaching in primary and secondary school and college levels, as well as curricula at pre- and post-college levels.

Not only do we need scientifically and technically qualified professional men and women, we also need a scientifically and technically literate public. For this reason, the Foundation established programs to enhance public understanding of science. Each day, every citizen is faced with energy, environmental, computational, and other technology-related problems of increasing complexity. The majority of the nation's regulatory and policy decisions that set directions for scientific inquiry and technological developments are made by people who frequently have no direct involvement in science and technology. It is essential that they, and those who elect and support them, make these vital decisions on the basis of knowledge and understanding. These people need problem-solving skills and sufficient comprehension of science, so they can function intelligently as voters and public officials in a world being constantly changed by science and technology.

The Foundation is in a unique position to deal with science education issues, because of its close ties with the scientific community. Based on past performance, local communities cannot be expected to assume the role of the Foundation in this area. Local communities have different priorities that are not likely to change, especially since they may be faced with pressing issues arising from possible changes in federal policies toward education.

In spite of its limited funding in the face of a highly complex situation, the Foundation's role in meeting the needs in science education has been constructive and productive. As three examples, we cite:

(1) The Precollege Teacher Development in Science program (and its predecessors) that provides middle and secondary school teachers means for

improving their subject matter competence and qualifications. The most successful activities are the institutes which bring together precollege teachers and faculty members from colleges and universities. These latter are scientific professionals who help the teachers improve and update their knowledge, and teaching methods, in science and mathematics. Continuing communication and cooperation between these two groups as a consequence of these activities has resulted in further improvements extending beyond the work supported directly by the NSF.

(2) The Local Course Improvement program supports at a very moderate level many individuals or small groups of college science faculty in the development of new classroom and laboratory methods, or the introduction of new knowledge into their courses and curricula. The major share of these funds goes to providing the release time necessary to develop these ideas, and bring them into use quickly. Many of these improvements serve as models to stimulate others, and most would not have been accomplished without the time provided by an NSF grant.

(3) The Public Understanding of Science program has been the primary support for development of "3-2-1 Contact," the children's television series about science. Reaching young people, especially young women and minorities, and stimulating their interest in science before they reach their teens is crucially important, because they could be the scientists of the future. The Public Understanding of Science program also supports many less dramatic projects that do not necessarily aim at interesting people in scientific careers, but are designed to communicate scientific developments to the general public. The ACS supports an active program in the area of public understanding of science. It is not possible for ACS, or any other scientific or engineering organization, to fill the gaps that will be created by elimination of NSF activity in this area.

We do not suggest that the above are the only NSF education programs worthy of support, but only cite them as examples. Because science education will likely remain an area of contention in future funding considerations, we recommend that the Foundation and the National Science Board conduct a thorough review of the programs and organizational structure of the Directorate.

In the meantime, we recommend that the NSF Science and Engineering Education Directorate be given enough flexibility in its funding to support its proven programs, and create new ones to meet emerging needs in science education. Therefore, we support the action by the House Subcommittee on Science, Research and Technology that will allow the Directorate to remain in existence.

In view of the critical importance to the nation's welfare of developing fully material and human resources in science and engineering, the nation needs the widest possible range of advice on the subject. We recommend that the Foundation and the National Science Board call upon the Congressionally-chartered scientific societies, such as the American Chemical Society, and other scientific, engineering and professional societies, for information and advice when priorities and directions for scientific research and education programs are being determined.

To conclude, let me point out that the launching of Sputnik I by the U.S.S.R. in 1957 gave a big jolt to U.S. policymakers. This resulted in a concerted effort to bolster U.S. scientific capabilities. An important part of that effort was in science education. It is therefore ironic that, at the same time we are witnessing the glorious culmination of that effort in the orbiting and landing of the space shuttle Columbia, we are also seeing a retrenchment from a national commitment to science education.

To acquaint you with the American Chemical Society, we would like you to note that the ACS is an individual membership organization composed of more than 120,000 chemists and chemical engineers reflecting a broad spectrum of academic, governmental, and industrial professional pursuits. Approximately 60% of the membership is employed by industry, 25% by academic institutions, and 15% by governmental and nonprofit institutions.

The Society was founded in 1876, and was chartered as a nonprofit, scientific and educational organization by an act of Congress signed into law on

August 25, 1937. Under its National Charter, the Society is charged with the responsibility to encourage in the broadest and most liberal manner the advancement of chemistry and the promotion of research in chemical science and industry, "thereby fostering the public welfare and education, aiding the development of our country's industries, and adding to the material prosperity and happiness of our people."

The Charter imposes an obligation on the Society to provide assistance to the government in matters of national concern related to its areas of competence. Since one of the objectives of our Federal Charter is the promotion of research, we appreciate the opportunity that has been given us today to comment on the National Science Foundation.

APPENDIX

TABLE 1
ADMINISTRATION'S BUDGET PLAN
National Science Foundation
(000 Omitted from Dollar Amounts)

Year	Budget Authority ($ in Million)	% Change From Previous Year*
1981	$ 1,000	3.2
1982	1,038	3.8
1983	1,111	7.0
1984	1,178	6.0
1985	1,240	5.3
1986	1,303	5.1

* Based on FY 1980 Budget Authority of $968.4 million

Source: Fiscal Year 1982 Budget Review, Additional Details on Budget Savings, April 1981, Executive Office of the President, Office of Management and Budget, p.369

Prepared by: American Chemical Society

TABLE 2

NSF
Total Obligations
Obligation History 1973 - 1982
(000 Omitted from Dollar Amounts)

Fiscal Year	Actual/Proposed	GNP Deflator	Constant (1972) Dollars
1973	$ 610,270	1.044	$ 584,550
1974	645,650	1.125	573,911
1975	693,127	1.246	556,282
1976	724,417	1.332	543,857
1977	791,769	1.424	556,018
1978	857,247	1.520	563,978
1979	926,932	1.651	561,437
1980	975,130	1.767*	551,856
1981	1,012,998 (proposed)	1.994*	521,090
1982	1,033,500 (proposed)	2.113*	489,115

*The GNP deflators for 1980, 1981, and 1982 are estimates

SOURCE: National Science Foundation

Prepared by: American Chemical Society

TABLE 3

NSF
Mathematics and Physical Sciences Directorate
Obligation History 1973 - 1982
(000 Omitted from Dollar Amounts)

Fiscal Year	Actual/Proposed	GNP Deflator	Constant (1972) Dollars
1973	$ 118,897	1.044	$ 113,886
1974	123,197	1.125	109,508
1975	146,699	1.246	117,736
1976	156,417	1.332	117,430
1977	182,659	1.424	128,265
1978	200,862	1.520	132,146
1979	208,865	1.651	126,508
1980	226,991	1.767*	128,461
1981	248,220 (proposed)	1.944*	127,685
1982	295,410 (proposed)	2.113*	139,806

*The GNP deflators for 1980, 1981, and 1982 are estimates

SOURCE: National Science Foundation

Prepared by: American Chemical Society

TABLE 4

NSF
Chemistry Division Budget Authority
Obligation History 1973 - 1982
(000 Omitted from Dollar Amounts)

Fiscal Year	Actual/proposed	GNP Deflator	Constant (1972) Dollars
1973	$ 25,081	1.044	$ 24,024
1974	26,645	1.125	23,684
1975	32,728	1.246	26,266
1976	34,650	1.332	26,014
1977	40,226	1.424	28,249
1978	43,050	1.520	28,322
1979	45,230	1.651	27,396
1980	51,451	1.676*	29,118
1981	55,860 (proposed)	1.944*	28,735
1982	65,920 (proposed)	2.113*	31,197

*The GNP deflators for 1980, 1981, and 1982 are estimates
SOURCE: National Science Foundation
Prepared by: American Chemical Society

TABLE 5.

Increased Start-up Costs for Frontier Research (Synthetic Organic Chemistry)

1973		1979	
Instrument	**Cost**	**Instrument**	**Cost**
		Laboratory Instrumentation	
Rinco evaporator - 2	$ 300	Rotavac evaporators	$ 1,700
2 vacuum pumps	400	Prep. liquid chromatograph with fraction collector	7,200
Distillation apparatus—spinning band	825	Analytical liquid chromatograph with recorder and data system shared with capillary column	13,250
Solvent stills - 3	600	Gas chromatograph	11,300
Melting point apparatus	150	Solvent stills with fire safety hoods	4,500
Gas chromatograph and recorder	1,450	Hot plates, stirrers, and heating mantles	600
Hot plates and stirrers, heating mantles	275	Microware with standard taper joints	3,000
Glassware	500	Laboratory glassware	800
Infracord Infrared Spectrometer	3,500	Thin layer chromatographic plates and tanks	1,500
TOTALS:	$ 8,000		$ 43,850
		Departmental Equipment to Which Access Required	
A-60 NMR Spectrometer	$40,000	90 mhz R-32 NMR spectrometer	$ 52,000
Cary 14 UV-Visible Spectrometer	14,000	200 mhz wide bore NMR spectrometer	225,000
Hitachi RMU-6 Mass Spectrometer	60,000	CFT-20 ^{13}C NMR spectrometer	80,000
Precision refractometer	2,500	GC-mass spectrometer and data system - Finnigan 4000	160,000
		Cary 17 - UV, Vis, Near IR spectrometer	32,000
		Digilab FT-IR spectrometer	82,000
		High resolution mass spectrometer - CEC - 21 - 110	110,000
TOTALS:	$116,500		$741,000

SOURCE: The Scientific Instrumentation Needs of Research Universities, A Report to the National Science Foundation by the Association of American Universities, June 1980.

STATEMENT OF DR. D. ALLAN BROMLEY, PRESIDENT, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Introduction

Thank you for the opportunity--and challenge--of presenting our views during your hearings on the NSF budget request for Fiscal Year 1982.

I shall comment briefly on the state of science and technology, including science and engineering education. Also, while I do not plan to discuss specific budget amounts for various NSF programs, several general comments and recommendations are offered for your consideration.

But first, let me say just a few words about the American Association for the Advancement of Science--or the AAAS as it is commonly known. We have as members about 132,000 scientists and engineers; as affiliates we have about 283 other scientific, engineering and technical societies and organizations--with a total membership of around 5 million. AAAS publishes the journals Science and Science 81, the latter with a circulation of about 750,000. The Association is also active in a broad variety of public policy and public understanding of science activities.

Need for a Revitalized Economy

Mr. Chairman, the country needs a revitalized economy with substantial economic growth. I believe the overwhelming majority of scientists and engineers in the United States support this objective.

The U. S. economy has stagnated over the past decade. Although men and women of good will and great intellectual competence might disagree on the causes, the fact is that productivity gains have not kept up with our competition in other industrialized countries.

In order to reestablish the desired growth for our national economy, it is likely that a number of incentives will be required like some of those discussed in the context of the Reagan economic program. Some of these incentives will impact research and development programs in a favorable manner. An example is the proposal for accelerated depreciation for capital equipment used in industrial R&D, recently announced by the Administration as a part of its program.

A robust national effort in research and development is fundamental to a strategy for economic growth.

The role of research and development has received increasing attention by economists seeking to understand the reasons for economic growth. At the 1977 annual AAAS Colloquium on Research and Development it was reported that technological advance, or the growth of knowledge, has been second only to labor supply increases as a major source of economic growth over both short and long periods since 1929.

It is not at all difficult to identify truly impressive examples of the high payoff of R&D. The rate of return on hybrid corn R&D is estimated at over 700 percent; all agricultural R&D investments are said to have a median rate of return of about 100 percent.

My colleague at Yale, economist William Nordhaus, at that time a member of the Council of Economic Advisors, told the AAAS in 1977 that most analysts are convinced that "the role of research and development and technological change in the economy is paramount." Yet, despite this major consensus it does not follow that the private sector allocates optimal resources to R&D in all areas of national interest. Two major reasons explain this and provide a basis for large-scale federal support of R&D.

A rationale for public support of research and development

First, there is the fact that the overall benefits to the nation of much--but not all--long-range R&D exceed the benefits to the organization that paid for it. Competitors benefit from corporate R&D investments by using to their own benefit the new knowledge generated. Further, consumers benefit from lower prices, so that the benefits of successful R&D do not flow solely to increased corporate profits. As a result, and as it has been demonstrated over time, there is good reason to believe there is and will continue to be underinvestment by the private sector in R&D--and especially in basic research.

A second major reason for the special role of the Federal Government in R&D arises from the highly risky nature of R&D investments. One cannot be sure that any one research effort, or any small group of such efforts, will pay off. However, like life insurance, probabilities of success almost become certainties when the aggregate of R&D projects is very large.

Private investment in R&D--particularly of a long-term nature--are frequently discouraged by high risk considerations.

This leads to a clear conclusion that federal support of R&D has been and will continue to be an important investment in the future. The overall benefits appear to be large. It is our responsibility in the scientific and engineering communities to bring this relationship to the attention of decision-makers and to the general public. We feel R&D should be supported on its merits as a long-term investment, not because of pressure from a special interest group.

The amount of U. S. investment in research and development has been and remains substantial--although there are problems.

When one looks at total R&D spending in the United States, very large numbers are encountered. For the current year, the national R&D effort--public and private--comes to about 68 billion dollars--or about 295 dollars per person. Yet, such large numbers cannot be examined in isolation. For example, as recently noted in the Science and Technology report of the Commission on an Agenda for the Eighties, "the sheer size of the U. S. economy results in larger R&D expenditures than those of other countries," but "taking these data in comparative perspective raises serious concerns about international economic competition."

What are some of these comparative perspectives? Let me mention several.

- While other nations have experienced real growth in R&D, the apparent increases in the U. S. reflect only inflation. In constant dollars we have been on a flat plateau since the mid 1960's.
- As shown on page 10 of Science Indicators for 1978, there is a stunning lack of investment in the advancement of knowledge by the U. S. compared to our major European allies and Japan. (Appendix 1)
- This observation relates directly to the fact that, as a percentage of GNP, total R&D spending in the U. S. has declined steadily since the middle to late 1960's--while the comparable number for Japan, West Germany and the U. S. S. R. has increased substantially.
- Investment by U. S. industry in research as a percent of sales decreased by about one-third between 1968 and 1980.
- In terms of international trade and economic competition, it may be worth noting that in recent years Japan has only allocated about

two percent of government R&D to defense, West Germany about 12 percent, and France 30 percent--compared to about 50 percent (and rising) for the U. S.

Such comparisons provide a disturbing insight about what has been happening to our investment in the future. But let me state my views in another way as well. As a consequence of enlightened, generous support by the American taxpayer, we still have, overall, the strongest scientific and technological establishment in the world. Continuing strength depends upon these factors:

- Modern, competitive facilities,
- Imaginative, creative people in a broad variety of scientific and engineering fields, and
- An adequate flow of our best young people into our scientific and engineering enterprise.

Above and beyond the statistical trends I noted earlier, however, as I look at these three factors I am troubled. We have severe problems and out world lead is in jeopardy; indeed, in some areas we have already lost our lead. What, then, specifically is wrong?

- In many areas and places our facilities are obsolete and non-competitive;
- We have current shortages of the right kinds of people; and
- The flow of young people into science and engineering is ominously inadequate.

But, I will return to these points a little later, so please bear with me.

In summary, despite large levels of R&D funding, our R&D investments are declining relative to others. Despite the lack of a statistical linkage between the leveling out of real growth in R&D since the late 1960's and our productivity slowdown, we feel confident in pointing to the need for continuing investment--public and private--in R&D for the long-range well-being of our nation. Given the technological successes of some of our international competitors we can ill afford to follow a policy of "no-growth" in R&D over the long term.

Science and engineering education is an integral part of our scientific and technological structure in the U. S.--and there are reasons to be concerned.

In discussing science education, first let me refer to a resolution on "Science and Engineering Education" which was adopted in early January, 1981 by the AAAS Council during our annual meeting. (Appendix 2)

Please note that we call for a full measure of effort to reverse the damaging decline of science and engineering education. Also, we point to the need for a new national commitment to excellence in science and engineering education. A basic reason for these positions can be succinctly stated: To expect scientific and technological progress while abandoning efforts at improving science and engineering teaching in our schools is illogical and a disservice to the Nation's interests.

Beyond this general concern, it may be useful for our discussion if we divide the total educational spectrum into three broad categories: graduate, college, and pre-college.

Turning first to graduate education, I think we can say without much question that U. S. graduate science education still sets goals and standards and is substantially ahead of anything else in the world. The problem, however, is that this strenght is in jeopardy because we find ourselves working with instrumentation that is technically obsolete and usually one or two decades old. The result is that all too often we no longer are competitive with the instrumentation enjoyed by our major international competitors. So the strength is there, but it is in serious danger.

We find "peaks" and "valleys" when we turn to the second major component --the college area. We have "peaks" of excellence and, unhappily, we have "valleys" of lesser quality. However, if we average the college spectrum in this country, I believe, on the basis of all the evidence available to me, that we would be essentially competitive with a similar average taken in any other country in the world. The spread in quality in our country is considerably larger, however, because we do not have the degree of centralized control over college education that exists in most of the rest of the world. Yet, there are serious problems looming here: faculty members in the sciences and engineering are being drawn away to industry in large numbers because of far more attractive salaries. We may well be seriously damaging our capability to educate the next generation of scientists and engineers in a number of important fields.

When we come to pre-college education, we are in the middle of an area where I am most distressed, and where I feel that we in the U. S. have fallen seriously behind the rest of the developed world. There are severe problems in the quality and quantity of science education being given to those few who choose to take it at all. But even more deplorable is that a very large fraction of our students go through this entire period of their educational life without ever being exposed to anything significant in science and technology.

Among the high costs of this situation is that it will be very difficult for the oncoming generation of people to function effectively in a society characterized by increasing technological sophistication and content. To the extent that these future citizens find it impossible to understand the issues involved, let alone participate in their resolution, the possibility and potential for alienation are all too evident.

I feel that it is terribly important for us to bear down on this question of federal support for science education. I think the Congress acted wisely when it amended the NSF organic act in 1972 to stipulate that the NSF should "initiate and support basic scientific research and programs to strengthen scientific research potential and science education programs at all levels . . ." (emphasis added).

It is not very realistic to expect each State to "reinvent the scientific and technological wheel." Also, budget pressures will operate against them staying current with the latest advances on an individual basis. I think it is important to note that the NSF has never "dictated" to schools what they should teach; rather their purpose has been to serve as a resource for the States and individual school districts to use material as they see fit in local educational programs.

One last problem in the pre-college area is worth mentioning. Comparable to the college faculty move to industry, a significant number of the better qualified science teachers have also left for higher pay in industry. This presents a severe challenge in an area already beset with difficulties. NSF has in the past played a very important role in "upgrading" teachers of science at these school levels and things could only become worse if the NSF moves out.

In concluding this section I would argue that federal funds for improvements in science and engineering education have the same investment character as those for R&D. We must support such work to ensure our future.

Structuring good R&D budgets at the national level and within the private sector remains an art--not a science.

While, as I noted earlier, there are substantial resources allocated to R&D in the United States, there also are fiercely competing demands for them. In sorting out these demands and working out allocations that make sense, NSF and other institutions must cope with a number of factors--each of which could provide the basis for extensive debate. I will mention only these:

- Government supported versus private R&D;
- Basic research versus applied;
- Problem-oriented versus disciplinary research.

Knowledgeable experts have disagreed in the past and will disagree in the future on the best allocation of R&D resources. However, our non-centralized multi-faceted decision-making system in this country has done a rather creditable job of allocating resources in the past. And given its unique position as a "balance wheel" in the panoply of science and engineering institutions in this country, NSF has in the past done a good job in allocating its resources. However, from what we know about the proposed budget for NSF, this traditional process was not followed in its preparation. Consensus building in decision-making is central to our Nation's scientific and technological strength; we should be cautious about adopting alternative strategies which disregard the views of major participants.

Reactions to the President's NSF Budget Request

As I said at the beginning, I do not plan to discuss specific budget numbers. Even if I were so inclined, which I am not, we have not had the time to examine every budget element. Having said this, I am prepared to give my general impressions about the budget request.

At the aggregate level, the magnitude of the reductions will not permanently damage the scientific and engineering enterprise in the United States. This judgment is based in part on reports that R&D in other federal agencies has been impacted less than research in NSF by the budget revisions. In the current economic environment, it is incumbent on all sectors of the society and our economy to undertake belt-tightening. Scientists and engineers are willing to participate along with other citizens.

We expect this growth slowdown to be temporary, and that there will be increased investment in research and development programs by the Federal Government in the years to come. This expectation stems from our belief that there will be a rediscovery over the months ahead of the value of research and development in helping solve the nation's economic problems. Please note that R&D can make a contribution to the solution of these problems but cannot alone assure their solution. R&D, to use terminology found in the mathematics classroom, provides a necessary but not sufficient contribution to the solutions that we all desire.

However, we are very puzzled and concerned about a number of the proposed sharp reductions or eliminations. Among these are:

- Science education--Earlier I stated our views on the importance of this area as an investment in the future. I view the adequate support of effective science education programs to be of the highest priority.
- International programs--Of particular concern are the zeroing of U. S. contributions to the International Council of Scientific Unions (ICSU) and the International Institute of Applied Systems Analysis (IIASA). Both are broad-guaged endeavors to foster international cooperation in science. Moreover, as foreign science becomes more advanced and more competitive, it is imperative that as a matter of self interest we maintain close contact so as to know what is going on.
- Programs aimed at solving science entry problems for minorities and women--In keeping with a long-standing policy, the AAAS supports the full utilization of human resource potential in the pursuit of science. Programs to increase access to science and engineering by all--including women, minorities and the physically handicapped--are necessary if we are to draw on the talent of the entire population in the search for solutions to the problems which confront us all.
- Social and behavioral sciences--The continuing support of the physical sciences and engineering in the President's budget requests for agencies such as NSF and DOE is a recognition of their fundamental role in attacking many of the major problems now facing our society. But it bears emphasis that in many of these problems, clearly identified in

the public mind with science and technology--energy, the environment, health care delivery--to name only a few, the physical sciences and technology are largely in hand; it is an adequate understanding of the social science and behavioral aspects that we lack and that stands in the way of effective progress.

For this reason, while recognizing that priorities must be drawn, we believe that the brutal reductions suffered by the NSF social science programs--and even more important, the shock wave of uncertainty and confusion that they have already engendered in these social science and behavioral communities--will have a very serious negative impact on the effectiveness of our national response to many of our most pressing problems.

It may well be that a new balance among the sciences may be called for as we move forward to address these and other problems; but we would urge that a more gradual transition to this new equilibrium--whatever it may be--would have the great advantage of preserving at least those aspects of the social and behavioral sciences that will be absolutely essential in the future.

- Intergovernmental science and technology--While the Federal Government as early as the 1940's accepted the fact that research and development were central to national concerns, the realization that there was a comparable potential for State and local governments came much later in the 1970's.

  NSF has played a key catalytic role in bringing about greater and more effective use of science and technology by State and local governments. Such activities have not been seen as federal "interference;" rather, they are viewed by those affected as supportive, imaginative, and important to strengthening State and local government. To eliminate these programs without any transition would destroy these fledgling capabilities--the kinds of capabilities I might add that took nearly 70 years to devise in the Agricultural Extension Service.

- Instrumentation--I referred earlier to the serious condition our graduate laboratories are falling into because of obsolete instrumentation. This must be corrected before too much time elapses if we are to maintain our quality standards of research excellence. Deferral of this initiative carries with it a very high risk of losing our lead on a number of research frontiers. Besides the graduate problem, however, we face comparable inadequacies at the college undergraduate level and in high school teaching facilities. The NSF has provided limited but effective support for these areas in the past; total withdrawal would only exacerbate an already serious problem.

Finally, let me emphasize and reiterate the peculiar need in R&D for reasonable stability in funding patterns. This applies equally to programs in science and engineering education. "Stop and go" approaches, strong oscillations, and discontinuities are very inefficient; one can end up with partially completed projects of little use. Once research teams are disbanded and dispersed, it is quite impossible to reassemble them.

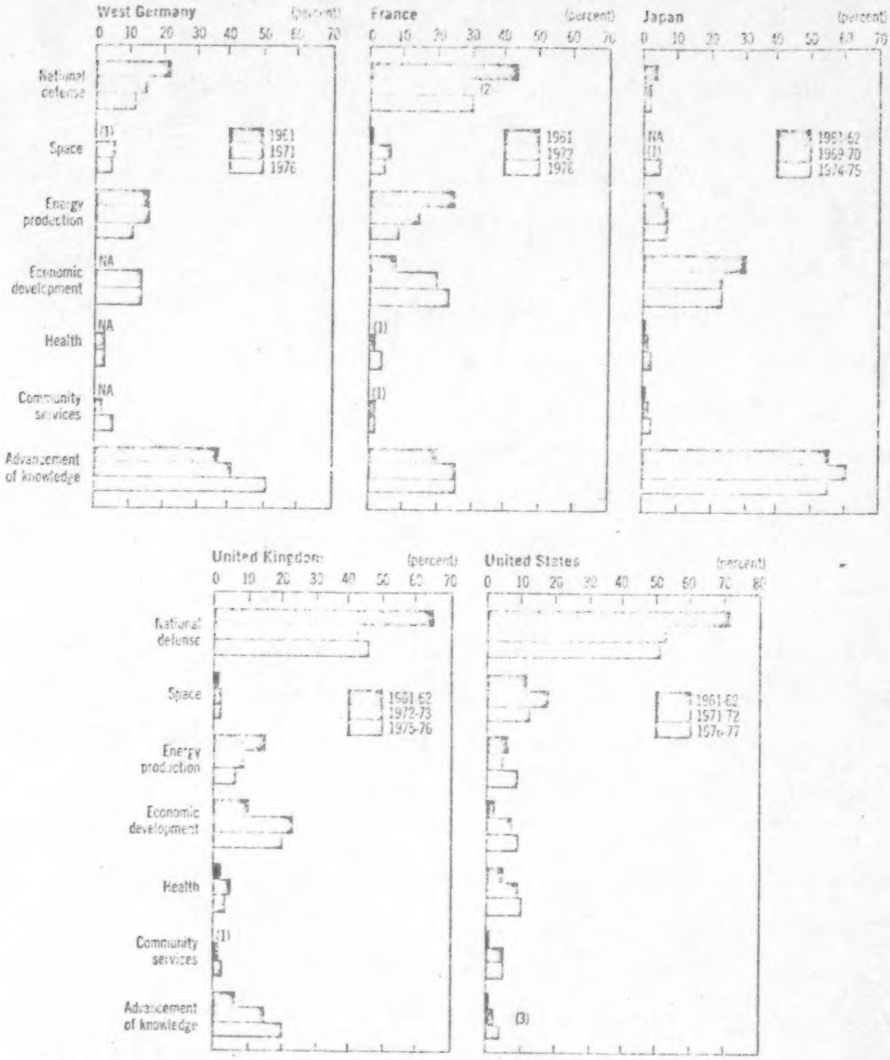
Recommendations for Action

Let me restate one of my opening remarks: given the need for significant, dramatic economic initiatives, research and development clearly cannot escape temporary reductions--or slowdowns in growth--at least this year. This does not in any way change the "case for R&D," but we must balance priorities in light of the larger economic issue. Therefore, I would not suggest large increases in the proposed NSF budget total for Fiscal Years 1981 and 1982.

Yet, as I pointed earlier, there appears to be a number of local "disaster areas" within the overall NSF requested levels. I hope the Congress will undertake a close review of these "areas" and consider redirecting the resources necessary to bring some relief. It is, I think, quite possible to agree with and support the President's overall economic objectives, yet differ on the exact composition of program elements.

In conclusion, I would like to reemphasize our belief that during the months ahead the fundamental worth--in particular, the long-term investment character--of research and development will become even more evident. We expect this will be reflected in future actions of the Administration and Congress, and that the current pause in R&D growth will be temporary.

Estimated distribution of Government R&D expenditures among selected national objectives, by country: 1961-77



[1] Less than 0.5 percent

[2] Later estimates indicate that this amount was about 32.0 percent.

[3] General University funds are not included in the "Advancement of knowledge" category for the United States.

REFERENCE: Appendix tables 1-5 and 1-6

Resolution on

Science and Engineering Education

Whereas the advancement of science and engineering depends fundamentally on both the quality of education and an informed citizenry, and

Whereas the American Association for the Advancement of Science has a responsibility to foster excellence in the education of scientists and engineers while enhancing understanding of science and technology by the public at large, and

Whereas the scientific and engineering communities have long been concerned that serious and worsening deficiencies exist in science and engineering education, including precollege science education and college science education for citizens, and

Whereas a Cabinet-level report to the President of the United States notes that for the past fifteen years there has been a shrinking of our national commitment to excellence and international leadership in science, mathematics, and engineering, and

Whereas the American Association of Engineering Societies has adopted a position statement on engineering education and an action program,

Therefore be it resolved that the Board of Directors and Council of this Association

(a) Pledge this Association, in partnership with its affiliated science and engineering societies, to a full measure of effort to reverse the damaging decline of science and engineering education in the United States;

(b) Urge the President and the Congress of the United States to address the need for a new national commitment to excellence in science and engineering education for all Americans;

(c) Direct the president of the Association to convene a consultative conference of heads of affiliated societies with the aim of advancing science and engineering education in the United States in the 1980s; and

(d) Direct that a major theme of the 1982 Annual Meeting of the AAAS be "Toward a National Commitment to Educational Excellence in Science and Engineering for All Americans."

Adopted by the Council of the
American Association for the
Advancement of Science
7 January 1981

STATEMENT OF R. D. ANDERSON, PRESIDENT, MATHEMATICAL ASSOCIATION OF AMERICA, AND COUNCIL OF SCIENTIFIC SOCIETY PRESIDENTS

While the opinions expressed here are my personal ones, they reflect concerns and viewpoints developed in many recent committee discussions both in CSSP and in the mathematics community. The concern with and emphasis on the crisis in pre-college education for science and technology is consistent with formal positions taken by the Executive Board of CSSP and by the Science Education Committee of CSSP. The testimony here is primarily concerned with the science and engineering education part of the NSF budget.

The two most critical issues now facing education for science and technology are:

(1) the developing severe shortages of highly competent U.S. citizen graduate students (particularly at the doctoral level) in computer science and high technology engineering threatening our nation's future status as a leader in technology research,

(2) the developing crisis in pre-college education for science and technology as evidenced by various measures of student performance in the face of the need for a much more technologically and quantitatively-oriented work force at all levels, from skilled workers and technicians on up. We need this type of work force in order to exploit the fruits of our developing technological age in increasing productivity and in maintaining our military capabilities to meet growing foreign competition.

In my opinion, graduate program issues should be considered as part of the research effort and should be funded from research directorates in NSF. Specific training at the graduate level is for future research activity and is part and parcel of that enterprise. The problems of (1) above are so close to immediate research needs that in NSF they tend to discourage emphasis on the perhaps even more critical but longer range problems of education not just for research but for the larger science and technology enterprise.

In what follows I speak to the problems of (2) above and of the need for more and better focused federal actions to address these needs.

I have three specific immediate pleas.

(a) Keep the NSF Directorate for Science and Engineering Education alive and functioning and concentrating on pre-college education for science and technology in the broad sense. Funding should be at the maximum authorized level.

(b) Direct the National Science Board and NSF to consult extensively with the science, engineering, and educational communities and come up with a plan to address the needs of pre-college education for science and technology. Such a plan should have priorities, cost analyses, and alternative strategies. It should identify areas where federal intervention is needed and can be useful as well as those where it is not needed or would not be useful. One mechanism to help accomplish this program would be the establishment of a National Commission for Excellence in Education for Science and Technology, focused at the pre-college level. Such a Commission should have the active support of the NSB and NSF as well as of the Department of Education and should stress cooperative efforts by all interested groups. Few if any members of the NSB have a background of extensive involvement or professional activity in pre-college education per se. In recent years the NSB and NSF have downgraded the importance of pre-college education activities.

(c) Put no floors or ceilings on specific parts of the NSF Science and Engineering Education budget. Let NSF use the little money that is available to meet the most pressing needs. One reason the program has not been as effective as it should have been is that, partly under congressional mandates, NSF has used a scattershot approach with a variety of programs, individually useful and justified, but with very inadequate emphasis on the really major crisis facing pre-college education.

Examples of problems at the pre-college level that can now clearly be identified are the serious current shortages of qualified teachers in science and mathematics and the much more serious impending shortages. Our pipelines for replacements are almost empty while non-academic employment opportunities siphon off many of our best teachers. An increasing lack of qualified teachers almost inevitably implies decreasing student performance.

Unless we can significantly improve the quality of pre-college education for our youth, we face very serious shortages of competent work force entrants over the rest of this century. Just to maintain the present inadequate numbers of technologically competent work force entrants, by the mid-nineties we shall need 35% more of a given young age group at all levels of scientific and technological activity. This demographically driven fact is frightening.

The scientific, technological, and military competition from abroad demands that we find solutions to the problems of education for science and technology.

STATEMENT OF CHARLES L. BOYER, CHAIRPERSON, NATIONAL INTERRELIGIOUS SERVICE BOARD FOR CONSCIENTIOUS OBJECTORS

Mr. Chairman and Members of the Committee: We appreciate this opportunity to present testimony to you today. I am Charles Boyer, a minister in the Church of the Brethren, Peace Consultant to its Commission on World Ministries, and presently Chairperson on the Board of Directors of the National Interreligious Service Board for Conscientious Objectors.

NISBCO is a nonprofit service organization formed in 1940 to respond to the needs of conscientious objectors and all individuals concerned with rights of conscience. We represent a broad coalition of 49 religious denominations, national religious groups and ethical organizations. A list of these organizations and denominations is attached to this statement. NISBCO provides information and counseling services to conscientious objectors already in the military, to those facing induction, registration or recruitment, and to individuals concerned about the increasing militarism in our society.

In an official statement on conscription adopted by our Board of Directors at a meeting March 5, 1981, we stated, "The National Interreligious Service Board for Conscientious Objectors is generally opposed to peacetime military conscription. Many of its constituent groups are unalterably opposed to all forms of conscription."

As an organization which is opposed to conscription and serves the needs of conscientious objectors, NISBCO has acted as a representative of conscientious objectors to the Selective Service Systme and has maintained an intense concern with the policies and procedures of Selective Service. It is out of this concern that we have critically examined Selective Service's appropriations request for FY82, and we conclude that this request reflects funding for procedures that are at this time inappropriate and not in the best interests of the United States.

NISBCO is disturbed by current developments in Selective Service policy, particularly the revival of the registration process. We view draft registration as an unjustified infringement on the rights of American youth. At this time, draft registration will neither appropriately "send a signal" to the U.S.S.R. nor enhance the security of our nation. NISBCO maintains the belief expressed in our official 1978 statement on conscription, that "the security of our citizens does not depend upon military forces, but upon the strength of our moral, economic, social and political institutions and upon awareness of the global interdependence of the human family."

In NISBCO's view, registration for the draft cannot be separated from the draft; registration is the initial stage of the conscription process. The Solicitor General Wade H. McCree, Jr. admitted this point in January, 1981, stating in a legal brief filed on behalf of the government in the Supreme Court Case Rostker v. Goldberg, "Registration, thus, is the first step in the conscription process...registration is an integral part of the process of conscription." Further, it seems obvious that taking the initial step of registration increases the likelihood of inductions proceeding, which increases the probability of our country's involvement in some armed conflict.

As evidenced by the debates and demonstrations which have accompanied the reinstatement of registration, draft registration is a controversial and potentially divisive issue in this country. Two major court cases, Wolman v. U.S., questioning the legality of Selective Service requiring social security numbers, and Goldberg v. Rostker, challenging the constitutionality of male-only draft registration, have emerged from the situtation. In addition, a comprehensive registration program raises the problem of prosecution of non-registrants. According to the Selective Service System's figures, during the July registration period at least 100,000 young men have not registered and for the initial January registration the number of non-registrants is much higher. Surveys by other groups, such as the Boston Globe, indicate larger numbers of non-registrants. Even accepting the government's figures as accurate, prosecution and punishment of 100,000 young men would obviously present severe social, financial and logistical difficulties.

Our concern with the inappropriateness of draft registration at this time is increased by the fact that President Reagan has consistently stated his opposition to peacetime conscription and his view that peacetime registration is currently an undesirable program.

In a letter to Senator Mark Hatfield last May, President Reagan expressed his firm opposition to draft registration on practical and moral grounds, claiming,

> I believe this proposal is an ill-considered one, and should be rejected. Advanced registration will do little to enhance our military preparedeness...Indeed draft registration may actually decrease our military preparedeness by making people think we have solved our defense problem--when we have not.

Mr. Reagan further comments,

> But perhaps the most fundamental objection to draft registration is moral. Only in the most severe national emergency does the government have a claim to the mandatory service of its young people. In any other time, a draft or draft registration destroys the very values that our society is committed to defending.

Throughout his campaign Mr. Reagan was consistent in his opposition to peacetime registration, and he remains officially opposed to conscription and registration. Since the President campaigned and was elected on the pledge to cut federal spending and limit government intervention in the lives of American citizens, it seems appropriate that the costly government intrusion of registering young men to be drafted, which the President has consistently criticized, should be abolished.

NISBCO's concern with the Selective Service System's actions extends beyond disapproval of the registration process. Currently, we see Selective Service taking further measures which greatly increase the system's readiness to proceed with inductions.

According to testimony given by Selective Service Director Dr. Bernard Rostker at a hearing before this subcommittee April 1, Selective Service is preparing for revitilization of their system through the measures of:

--the recruitment and training of standby local and appeal board members;

--the development of the management and ADP system to control the claims-adjudication systems;

--the development of an Alternative Service Program to complement the induction program.

Further, Selective Service now proposes to begin an initial medical screening process to eliminate the 2 to 4% of registrants obviously mentally or physically incapable of being inducted. As Senator Mark Hatfield pointed out in hearings before this subcommittee April 1, this action would represent the initial step in a classification process, and therefore exceed the activities outlined in the initial budget appropriations which Congress approved.

It is our concern that measures such as the formation of draft boards, the creation of a bureaucratic Alternative Service Program, and the beginning of classification facilitate a return to conscription. By "revitalizing" the system right up to the point of actually issuing inductions, Selective Service greatly increases the probability that the draft will be reinstated even in the absence of an immediate military threat to the nation.

Continued registration, active prosecution of non-registrants, formation and training of local draft boards, development of a bureaucratic Alternative Service Program and the beginning of classification; these are the programs for which Selective Service is requesting funding. It is NISBCO's conviction that these procedures are contrary to the best interests of all citizens of this country.

A return to conscription, beginning with draft registration, is unnecessary considering that there seems no imminent military threat to the nation and that significant steps are being taken to improve our volunteer forces. Registration and plans for inductions are clearly inconsistent with the public policies of President Reagan. Further, registration and inductions are harmful to citizens of this country, because money is spent needlessly, individual rights are violated, political divisions are created, and the possibility of military intervention is increased.

For these reasons we urge that the appropriation provided Selective Service in the FY82 budget be significantly lowered from the 21 million, 174 thousand dollars they have requested. Specifically, funds designated to be used for continued registration, formation and training of draft boards, development of an Alternative Service Program, and initial medical screening should be cut from this amount, so that the appropriation given to Selective Service more accurately reflects the policies of America's leadership and their mandate from America's citizens.

Attachment 1a

CONSULTATIVE COUNCIL MEMBERS

NATIONAL INTERRELIGIOUS SERVICE BOARD FOR CONSCIENTIOUS OBJECTORS

*American Baptist Home Mission Society
American Ethical Union
*American Friends Service Committee
*American Lutheran Church, The
Assemblies of God, General Council
Association of Bible Students, The
Association of Evangelical Lutheran Churches
Association of Fundamental Gospel Churches
*Christ's Sanctified Holy Church
Christian Churches (Disciples of Christ)
Church of Christ
Church of God General Conference
Church of God, Anderson, Indiana
Church of God (Seventh Day) Salem, W. Va.
*Church of the Brethren
Church of Jesus Christ, The
Church of the Gospel
Council for Humanist and Ethical Concerns
Dunkard Brethren
Emmanuel Association
Episcopal Peace Fellowship

Evangelical Covenant Church of America, The
Fellowship of Ethical Pacifists
Fellowship of Reconciliation
First Divine Association in America, Inc.
Free Methodist Church of North America
Friends United Meeting
Full Gospel Tabernacle
*Jewish Peace Fellowship
Lutheran Church in America
*Mennonite Central Committee
Molokan Advisory Council
National Council of the Churches of Christ in the
   U.S.A., Dept. of Religious and Civil Liberties
National Federation of Priests' Councils
Pax Christi
Pentecostal Fire-Baptized Holiness Church
Presbyterian Church, U.S.
Reformed Church in America
   Committee on International Justice and Goodwill
Seventh Day Adventists - National Service Organization
Sojourners Fellowship
Synagogue Council of America
Unitarian Universalist Association
*United Church of Christ
   Board for Homeland Ministries
*United Methodist Church, Board of
   Church and Society
United Pentecostal Church, Inc.

Attachment 1b

CONSULTATIVE COUNCIL MEMBERS

NATIONAL INTERRELIGIOUS SERVICE BOARD FOR CONSCIENTIOUS OBJECTORS

*United Presbyterian Church, U.S.A.
United State Catholic Conference
   Division of World Justice and Peace
World University Roundtable
Young Men's Christian Association, National Council

*Represented on NISBCO Board of Directors

National Interreligious Service Board for Conscientious Objectors
550 Washington Building
15th and New York Avenue, NW
Washington, DC 20005

STATEMENT OF RALPH ANDREANO, CHAIRMAN, DEPARTMENT OF ECONOMICS, UNIVERSITY OF WISCONSIN

For the past two decades, the National Science Foundation has provided much of the support for basic research in economic science. That research yielded a stream of discoveries that has changed the way decisions are made in both government and private business. While other agencies support research that applies the tools of economic science to practical problems, it is the National Science Foundation that provides support for the fundamental methodological work that leads to the development of new tools.

Economic science matured in important ways in the 1970s. Evidence of that maturity is seen is the application of sophisticated economic methods in many daily decisions by businesses, banks and governments. These methods, which are now a required part of the curricula of business schools and public policy schools and which are available even in law schools and medical schools, were derived directly from the basic research results of economists of earlier decades.

Developments in the analysis of uncertainty, in econometric estimation, in experimental design and in forecasting that were financed by NSF in the 1960s provide the basis for efficient decision-making today in the form of cost-benefit analyses, capital asset pricing decisions and public utility rate decisions.

Research in the 1970s has continued to yield a stream of important, fundamental discoveries that are only now beginning to be applied but that seem to be of great practical significance in these early applications. Among these discoveries are developments in game theory and bidding strategy that are now being applied in procedures for offshore oil lease auctions and in the efficient allocation of landing rights in crowded airports; in the understanding of how expectations influence the effectiveness of macroeconomic policy; in the ability to analyze and predict qualitative behavior (such as the decision of a teenager to work); and in analyses that deal formally with unobserved variables such as the native ability of individuals; or again, the expectations of inflation.

While these breakthroughs of the 1970s will improve the quality of public and private decision-making in the 1980s, the field remains fertile for further developments. Large-scale data bases are now becoming available, computer capacity is ceasing to be a computational constraint and the technical economic literacy of research staffs in business, government and the universities is growing. Therefore, new methodological developments in economic science are even more apt to be welcomed by a body of able practitioners in the future than in the past, even if these developments are quite complex and mathematical, as they no doubt will be.

Progress in the quality of decision-making in the 1990s depends to a large extent on the developments that are made in abstract economic science in the 1980s. It is this program that the National Science Foundation has supported in the 1960s and 1970s and that we feel has demonstrated that it deserves to be continued.

Brief Examples of Basic Research

Supported by the National Science Foundation

Ralph Andreano, Professor*
Chairman, Department of Economics
University of Wisconsin, Madison, Wisconsin

1. The methodology of economic model construction and economic forecasting (now a multi-million dollar industry) was worked out by economists with National Science Foundation funding.

2. Qualitative variables are ones which can assume only a few discrete values. Examples are employment status, mode of transportation and marital status. Econometric models were originally designed to discover the interrelationships among continuously varying variables (like unemployment and the price level) and could admit qualitative variables uneasily, if at all. Over the past decade econometricians (many of them supported by the National Science Foundation) have discovered how such variables may be introduced easily and comfortably into econometric models. All who use econometric models (and this includes most government agencies, businesses and private researchers) have benefitted from these advances.

3. Methods for analyzing problems with unobserved variables have been developed. Models incorporating these unobserved variables now provide useful information to policy makers in several fields. Examples include expectations of inflation or the differences among individuals in native ability or in initiative and willingness to work.

4. Economic theorists, supported by the NSF, have been trying to understand how auctions, committees, elections and similar processes work and when they should be used. This research has led to proposals (some of which have been implemented) for changing the rules by which offshore oil leases are auctioned, the techniques by which public television stations choose their programs and the procedures by which landing rights are allocated at such crowded airports as National and O'Hare.

5. Cost-benefit analysis is the technique which analysts in government and industry use for deciding whether or not particular projects should be carried out. While the basic framework of cost benefit analysis is straightforward and simple (add up the benefits of a project, subtract the costs; if the total is positive, the project is worthwhile), their application in any particular case is complex and difficult. The many theoretical and empirical problems which practitioners of cost-benefit analysis must face has advanced due to the work of researchers who were supported by the NSF. Questions which have been studied and resolved include: How should costs and benefits be measured in the presence of uncertainty? Does the tax system make it likely that projects which are unprofitable for any private enterprise are, nonetheless, socially desirable? How should benefits be measured when the effects of a program - such as increased life spans or less pollution - are not easy to price.

6. Many government programs and taxes have disincentive effects with respect work effort, saving and investment. This statement is the basis of what has come to be called "supply side economics". Basic theory and methods for measurement of these effects have been developed by economists with NSF funding.

7. The elements of modern financial theory have been developed by economic scientists whose basic research has been funded by NSF.

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*My colleagues, Professors W. Lee Hansen, Robert Lampman, Donald Nichols and Michael Rothschild assisted in the preparation of these examples.

STATEMENT OF NORTH AMERICAN STUDENTS OF COOPERATION

The North American Students of Cooperation is a non-profit membership organization of student cooperatives. It provides educational and technical services to its members and to student groups working to start cooperatives. NASCO is the focus of communications for student co-ops in the United States; through it co-ops throughout the country are linked.

NASCO presents this testimony in support of the NATIONAL CONSUMER COOPERATIVE BANK on behalf of the 10,000+ students now living in cooperative housing and using cooperative retail outlets on our nation's campuses. These students have made prudent use of the Co-op Bank, and very strongly support the continued funding of the Bank in 1982. They have found the Bank to be a viable lending institution, which provides them access to the major debt capital any business needs to start or to expand and improve its services---and does so within the financial and legal parameters of cooperatives.

Continued funding for the National Consumer Cooperative Bank will be a wise allocation in the 1982 federal budget. The Co-op Bank is a postive alternative to big government at a time when we must decrease federal spending and increase the self sufficiency of local business. An adequately funded Co-op Bank offers the private sector a chance to meet human needs through cooperatives, which will provide substantial savings both to the individual consumer and the government. As in the case of the highly successful Bank for Cooperatives---the farm co-op bank upon which the Consumer Co-op Bank was modelled---the Consumer Co-op Bank will be independently owned by the cooperatives which use it, NOT returning to the federal government for funding year after year.

Student cooperatives actively support and use the Co-op Bank. For 100 years, since the first campus co-op---the well known Harvard Co-op---students have been obtaining housing and consumer goods and services through student cooperatives. By owning their own businesses, students have provided the services that meet their unique needs, while contributing to the economy of their college or university town and developing essential business skills in an actual business setting.

Since its opening in Spring, 1981, the Co-op Bank has actively served student cooperatives. Five student housing cooperatves and several consumer goods cooperatives serving large student populations have received market rate loans from the Co-op Bank. All of these loans are being repaid in timely fashion.

In many cases, these co-ops would have been turned down by local lending institutions, simply because banks do not understand the stucture of consumer cooperatives and are traditionally biased against providing loans to student-affiliated organizations.

In addition to making wise use of the Bank, these student cooperatives are actively investing in stock so that the Bank WILL be independent in a short period of time. All the co-ops that have received loans have purchased stock; numerous others have pledged their intent to do so.

CASE STUDY: University Students Cooperative Association
Perhaps the best way to understand the use made of the Co-op Bank is to look at one major co-op that has done so.

Students have unique housing needs. They experience high turnover and short periods of residency. These patterns require experienced, specialized management, which only university housing offices and student cooperatives provide. Further, students, being inexperienced in the housing market, are consistently discriminated against in the private market. First and last months' rents along with sizable damage deposits are common requirements in campus-area apartments. Even with these requirements, private property managers serving students commonly maintain their properties in LESS THAN CODE condition. Again, only student-owned cooperatives are dedicated to providing high quality off campus housing for students at less than market rate. These lower rates often allow low income students to stay in school, and middle income students stay off government-provided financial aid.

The University Students Cooperative Association has provided University of California—Berkeley students with low cost group housing since 1936. Now serving 1300 students, and having to turn away another 700 students each year, the USCA drew a $150,000 loan from the Co-op Bank for furnishings for their newest apartment building.

Clearly this loan, to be repaid at market rate, will benefit students for many years, and will strengthen a viable cooperative providing a much needed service to the Berkeley campus community.

SUMMARY

The National Consumer Cooperative Bank is one of the best conceived programs in the federal budget. 1) It will be self sufficient and 100% independent of the federal treasury in a short period of time. 2) It fights inflation by fostering private enterprise---strengthening local economies, creating jobs, and providing essential consumer services at the lowest possible cost, thus keeping lower income consumers off of federal welfare programs.

Maintaining the Co-op Bank supports exactly the self-sufficient, growing ecnomy this country needs.

Letter From Gilbert B. Lessenco, Attorney, Washington, D.C.

April 14, 1981 2 47 PM '81

Congressman Benjamin S. Rosenthal
Chairman, Subcommittee on Commerce, Consumer
and Monetary Affairs
House Government Operations Committee
B377 Rayburn House Office Building
U. S. House of Representatives
Washington, D. C. 20515

Congressman Henry A. Waxman
Chairman, Subcommittee on Health and the
Environment
House Energy and Commerce Committee
2415 Rayburn House Office Building
U. S. House of Representatives
Washington, D. C. 20515

Senator Robert W. Kasten, Jr.
Chairman, Consumer Subcommittee
Senate Committee on Commerce, Science
and Transportation
126 Russell Senate Office Building
U. S. Senate
Washington, D. C. 20510

Gentleman:

This letter is written to support the reauthorization of the Consumer Product Safety Commission, with funding levels designed to assure that the CPSC can perform its functions in the best interests of responsible business and consumers. With that as my goal, I shall also set forth some suggestions for specific modifications in the operations of the Agency.

I write as a Washington attorney who has represented businesses before the Commission and, as such, am well aware of the excessive zeal with which that Agency approached its tasks in its formative years. I regret, however, the use by so many of horror stories from the early days of the Commission, which I feel are designed solely as an excuse to cripple its operations. Quite frankly, I feel the time has come to cease name-calling and instead adopt programs which will ensure the refinement and modification of our government operations -- rather than the destruction thereof.

It's a pity, but I recognize at the outset that some will stop reading this letter on the grounds that I am a Washington attorney and, as such, presumably will gain if proceedings "grow" before the Commission. Let me set the record straight I am a general practitioner, not one who merely engages in practice before the CPSC. In any event, I prefer to have sound government which refrains from advancing ill-considered litigation.

Having stated this, however, I must admit to having a bias -- even a mission to advance. You see, gentlemen, my daughter, Susan Donna Lessenco, age 26, died in Tunisia on January 1 of this year. At the time of her death, she was serving as an employee of Save The Children Foundation -- a foundation which is dedicated toward the goal of trying to end or at least mitigate the effects of hunger, starvation and poverty in the world. In her work -- now cut short by her untimely death -- she was helping people in their daily living -- without regard to race, creed or nationality.

For the record, you should know that she died of asphyxiation from an unvented gas water heater in the bathroom of her home. Let me be crystal clear. The type of water heater which resulted in Sue's tragic death is not allowed any longer in the United States. Building codes -- not the CPSC -- prohibit their use.

There is a related problem, however, in that we do permit in the States the use of unvented gas space heaters. It is here that I wish to advise you of the responsible and creative work which has been performed by the Consumer Product Safety Commission in promulgating a standard now designed to substantially improve the safety features of such heaters.

Since you have been receiving so much negative information on the Commission, permit me, please, to go into some detail concerning these space heaters. The oxygen needed for combustion of such heaters comes directly from the space being heated. Since the heater is not vented to the outside, the products of combustion are going to go into the same space that is being heated. These products of combustion include carbon monoxide, an odorless, colorless and highly poisonous gas. To the extent that there is inadequate ventilation in the room, the oxygen will diminish and the carbon monoxide will dangerously increase. Such carbon monoxide causes depletion of blood oxygen in human beings, resulting in injury to tissues or death.

What the Consumer Product Safety Commission has now proposed in its recently concluded rulemaking proceeding is that unvented gas-fired space heaters shall not be sold after December 31, 1981 unless they are equipped with an oxygen depletion safety shutoff system. If the oxygen level decreases below a certain percentage, the gas supply will be automatically shut off. In addition, the CPSC proposes warning labels concerning the need for ventilation. . .

This proceeding started through a petition filed with the CPSC on January 10, 1974. The rulemaking was concluded with the recommendations I have outlined over seven years later. While I am critical of this time delay, I approve of the end result.

There are those who feel that the Commission can do its work on less money. I disagree and suggest the possibility that the CPSC's work on space heaters conceivably could have been more expeditious had it been given the resources and the confidence of Congress over the years. In addition, I wonder how long -- if ever -- it would have taken business to correct these heaters in the absence of a Consumer Product Safety Commission.

You should note that for the period from January, 1973 to May, 1978, Commission death certificate files disclose 136 deaths from CO poisoning that are positively associated with unvented gas-fired space heaters. The Commission feels that the estimate is conservative, and I am inclined to agree. And when you add to this the fact that the users of these heaters are primarily poor people, who can't really use the marketplace to protect themselves, you compound the problem.

With this background in mind, the recommendations I shall submit will be designed toward improving the operations of the CPSC so that it can continue in its important work. My hope would be that we would be modernizing government so that it can operate as an inspirational force to those responsible segments of the business community.

First, I urge you not to accept the proposed 27% cut on the CPSC budget. I strongly suggest that you fund the Commission with $45 million for fiscal year 1982. In doing so, I must state that I am not interested in government which "harasses" or, on the other hand, tries to offer "a helping hand." My daughter, who was terribly suspicious of large bureaucracies, would not have liked it either. She preferred to do her work in the field directly helping people. But I do feel that the CPSC has an important mission to advance and that $45 million is a very small price to pay for such a mission.

Second, and again within the spirit of cooperation that I have outlined in this letter, I would encourage you to adopt legislation which would emphasize volunteer standards. Mandatory standards should only be allowed where voluntary standards are not susceptible of compliance or are utterly ineffective.

You may be interested in learning that in the early days of the Commission there were some who felt that businesses must come before the Agency and not only admit that their products were unsafe but in effect plead guilty. I call this the "mea culpa" principle of government interference. While this was being advanced, there were many staff members at the Commission who were anxious to try a more cooperative approach. Some fortunately are still there but they need to be encouraged. Frankly, I do not see them being so encouraged with all of the negative anti-government arguments I now hear. These erroneous arguments place all government workers under the same umbrella -- regardless of their degree of competence.

Third, if you must advance cost/benefit analyses, I ask that they be applied with a responsible measure of humanitarianism. With due respect, the burden of human suffering from premature death is so serious that it is almost impossible to evaluate.

Fourth, please do maintain the independence of the CPSC -- whether a single administrator or a collegial body is established.

Finally, although it does not relate to the CPSC, you may consider using your good offices to assure that the State Department and the Peace Corps give appropriate instructions to our volunteers or government personnel as to the dangers of these unvented space heaters. They should be encouraged to have ventilation at all times. Admittedly, we cannot create a risk-free society and nor should we try. Even if we warn our citizens of some 23 dangers they might face overseas, fate may still come into play and there will be a 24th which will operate to kill them. Having stated this, however, I do know that others have died unnecessarily from these gas heaters. Some form of warning is mandatory; in fact, there should be signs which scream out a warning. I hope you can help.

I recognize that you have your work cut out for you. Nonetheless, I do hope that you can find the way to support funding of this Commission at the $45 million requested. This is still a very small amount to pay for overall safety.

If it is not too late, I would appreciate your adding this letter to the record of proceedings that may have been conducted. In the interim, I have forwarded copies to all members of your Subcommittees.

Sincerely yours,

Gilbert B. Lessenco

STATEMENT OF SENATOR SARBANES OF MARYLAND

Mr. Chairman, I appreciate the opportunity to submit this statement to the HUD-Independent Agencies Appropriations Subcommittee ~~as it takes up~~ Concerning the budget for the Veterans Administration for Fiscal Year 1982. My purpose is to reaffirm my strong support of the Veterans Administration's replacement hospital in Baltimore, Maryland, a project for which the Congress has authorized and appropriated funding and for which considerable funds have already been expended both by the Federal Government and the University of Maryland. I would urge the members of the subcommittee and the full Senate Appropriations Committee to reject the proposed rescission of construction money for this vital project.

The Baltimore replacement hospital is supported by the Maryland Veterans Commission, representing 628,000 veterans throughout the State. These veterans, 77,000 of whom sustained disabilities while in the service or are totally disabled by reason of non-service connected problems, deserve and expect quality medical care. The VA replacement hospital is designed to meet these urgent needs and to operate in conjunction with the University of Maryland Hospital under a unique program of cooperative medical care which will provide significant savings through the sharing of equipment, staff, and services. The new facility has also been endorsed by the Central Maryland Health Systems Agency and the Baltimore Regional Planning Council.

The Veterans Administration has already expended approximately $9 million on the VA replacement hospital -- $4.5 million for purchase of the hospital site, including the existing University of Maryland parking garage, and $4.5 million for design and architectural fees. The University of Maryland School of Medicine and School of Nursing have predicated their planning for future physical plant and academic programs on completion of the new hospital.

The University of Maryland would provide the following services under the existing cost-sharing agreement with the Veterans Administration: radiation therapy, renal dialysis, cardiac surgery, emergency room, and CAT scanner. All autopsies would be performed by the University of Maryland. These plans illustrate the time and effort on the part of the University of Maryland and the Veterans Administration to reduce the cost of the replacement hospital and to share expensive services.

The Veterans Administration is now prepared to let the first construction contract for the Baltimore replacement hospital. In light of the great need for this important new medical facility, the continuing Congressional commitment, and the money already spent by the Federal Government, it is vitally important that this project, designed to meet the medical needs of Maryland's veterans, move forward without further delay.

STATEMENT OF MICHAEL L. AINSLIE, PRESIDENT, NATIONAL TRUST FOR HISTORIC PRESERVATION

Mr. Chairman and Members of the Committee, thank you for this opportunity to give you the perspective of the private preservation community on the appropriations for various programs of the Department of Housing and Urban Development for the coming year. We are concerned about the severity of the budget cuts proposed by the Administration in some very cost effective programs, and we are concerned about the effect of proposed changes in the laws defining these programs.

I am sure that some of you may find the idea of a preservationist testifying for HUD a bit novel, if not plainly contradictory. It is true, Mr. Chairman, that we have had our problems with some HUD programs, with insensitivity and poor administration by those responsible for their implementation, and yes, with the short sightedness of some local officials and businessmen. Urban renewal destroyed invaluable housing and commerical stock and left us with too many square miles of empty desolation in the hearts of our towns and cities. More recently, deficiencies in the Urban Development Action Grant program resulted in last minute confrontations between mayors, developers and local citizens outraged over the impact of some projects on their communities' heritage.

Unfortunately, it is too often the failures and the confrontations that preoccupy us and claim popular attention. We must not focus on these. We should turn our attention to HUD's successes and the benefit of its activities to our nation's historic main streets, neighborhoods and industrial complexes. Perhaps most significantly, we should focus on the contributions of these historic resources to the economic revitalization of our communities and to the provision of adequate shelter for all Americans.

HUD and the National Trust share common interests in the design of our cities, in their economic well-being, and in their social diversity.

Most of our historic resources surveyed and identified to date -- individual landmarks, commerical districts and neighborhoods -- are in urban areas which are targeted as beneficiaries of HUD's programs.

Socially, the National Trust is committed to making the benefits of preservation available to all Americans regardless of race, ethnic background or income level. We, as well as HUD, are concerned about displacement. Minorities live in much of this nation's historic housing stock, and they should not be displaced when rehabilitation programs get underway. Our commitment is being translated into action through our new Inner City Venture Fund. The Fund is designed to catalyze substantial inner city neighborhood rehabilitation projects for the benefit of low income, primarily minority residents of historic districts. Through grants for equity capital, loans from our Preservation Revolving Fund, and help in obtaining conventional financing, these groups will be able to leverage themselves into the market and become proud historic property owners.

Economically, available studies and statistics demonstrate a high correlation between historic landmarks and commerical districts and the economic vitality of a community. The Booz, Allen and Hamilton study The Contribution of Historic Preservation to Urban Revitalization reveals impressive benefits in the number of jobs created, leveraging of private investment, the development of stronger retail centers, increased tourism, increased municipal revenues, and substantial municipal savings through reuse of the existing infrastructure of sewers, streets, transportation facilities, and utilities. Alexandria, Virginia, one of the cities studied, is a striking success within sight of the Capitol.

I am here today to tell you that preservation is the most promising strategy that any city or town has for the future of its development. And that is not an idle promise. It is a truth that has been proven in Baltimore, Boston, Philadelphia, Charleston, Seattle, Portland, and San Francisco. Through our National Main Street Center it is a truth that has been proven as well in Galesburg, Illinois, Hot Springs, South Dakota, and Madison, Indiana. Preservation, sensitively combining existing architecture with new construction, is the way of the future, and it is profitable.

Mr. Chairman, the Congress has wisely made historic preservation an eligible activity in these programs aimed at people's problems, and we are proud that historic preservation is contributing so successfully to the solving of those problems. Let me now relate my general observations to specific HUD programs for which you must set funding levels.

We are primarily concerned that the Administration is proposing to fold a number of worthy programs into a combined Community Development Block Grant and Urban Development Action Grant Program with substantially fewer total dollars to go around. This increased competition will, of course, put tremendous pressure on states and local communities. Also, it may well work to the detriment of less dramatic but critical activities like resource identification and community economic redevelopment and reuse planning. With historic preservation facing the anomolous Administration request to eliminate historic preservation matching grants to the states through the Department of the Interior, adequate community development funds to accomplish the essential first step of historic resource survey and identification will be that much more important. The need to continue adequate public participation in the CDBG program becomes imperative.

Thirty smaller towns and cities in six states being helped by our National Main Street Center. The Center was established with the support of HUD and six other Federal agencies and the cooperation of private business groups like the International Downtown Executives Association. Main Street teaches economic revitalization through reuse of downtown historic and architectural assets and by good business practices. Government still has a role to play, however. The CDBG program is being used in many of these downtowns to assist acquisition and development of parking areas behind the commerical buildings on Main Street, conversion of upper floors into housing and commerical space, and storefront improvements. More private investment will result. We must have a viable CDBG program, one adequately funded, to stimulate the Main Street approach across the country.

Let me now turn to the UDAG program. We support the UDAG program because it has made a real difference in attracting needed private development to urban areas and because it has been flexible enough to accomodate the varied needs of towns and cities. Projects involving historic preservation have been among the most successful in terms of stimulating private investment in untried areas, of creating long term jobs, and of making the most out of a community's existing assets. Let me give you a couple of examples:

> -In Portland, Maine, a $9.7 million UDAG investment in Congress Square led to private investment of $200 million in rehabilitation of older properties in the city's commercial center.
>
> -In the historic Pullman Neighborhood in Chicago, a $300,000 UDAG resulted in the creation of 250 jobs to create, in turn, 250 lower and middle income housing units. These kinds of neighborhood projects should not be excluded from UDAG eligibility.

In Salt Lake City, Mr. Chairman, the Deveraux Project represents another example of historic preservation contributing to community revitalization. The UDAG program will help to restore an important historic property to be the focal point of redevelopment in the Gateway District.

Consequently, we would like to see UDAG funding kept as close as possible to the appropriations levels set for this year. We also urge the Congress to be sure that there is adequate funding for state technical assistance to help towns and cities implement these programs. The National Main Street Center has been out in front working through states to develop their capacity to do and to help others do economic preservation planning. We know that a transition is necessary before states and towns and cities will be fully prepared to carry out the responsibilities proposed for them by the Administration.

Rehabilitation and reuse of our existing built resources is increasingly recognized as making economic sense. With the need to obtain more housing per public dollar invested, we urge the committee to retain adequate funding for the cost-effective Section 312 rehabilitation loan program without restricted eligibility.

Finally, we cannot ignore help for our neighborhoods. The focus of National Historic Preservation Week this year was "Conservation: Keeping America's Neighborhoods Together." Neighborhood associations, civic groups and local preservation organizations joined together to hold neighborhood history workshops that encourage community pride and a sense of local heritage and to conduct tours through neighborhoods undergoing rehabilitation. The National Trust's neighborhood office, funded with a small HUD grant of $36,000, shares information through the Conserve Neighborhoods newsletter going to more than 2,500 subscribers and holds how-to-do-it workshops for neighborhood leaders. With the shift of many governmental responsibilities to state and local governments, neighborhood initiative and self reliance will be more critical than ever before.

We urge the Committee to provide adequate funding for the Neighborhood Self Help Development Program. Its direct grants to neighborhood organizations have involved a broad range of preservation related activities including housing rehabilitation, commercial revitalization, and energy conservation. Noteworthy efforts include the nationally acclaimed Savannah Landmark Rehabilitation Project, restoration of the Haffenreffer Brewery in Boston's Jamaica Plain as a neighborhood center, and the Tucson Barrio Association's rehabilitation of historic adobe structures for continued residential use.

We are greatly concerned by the Administration's proposal to change the amendment agreed upon last year in Section 119 of the Housing and Community Development Act that assures adequate identification and consideration of historic resources impacted by a UDAG project before HUD releases funds. This and a number of other proposed changes contained in the proposed Housing and Community Development Act Amendments of 1981 should be reviewed very carefully by the Congress with an opportunity for public comment.

Thank you.

CONCLUSION OF HEARINGS

Ms. FISHER. This concludes the hearings for the HUD and Independent Agencies Subcommittee. The subcommittee will recess to reconvene subject to the call of the Chair.

[Whereupon, at 4:40 p.m., Wednesday, June 3, the hearings were concluded and the subcommittee was recessed to reconvene at the call of the Chair.]

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